OCTOBER 1983 NUMBER 470 -- Part I

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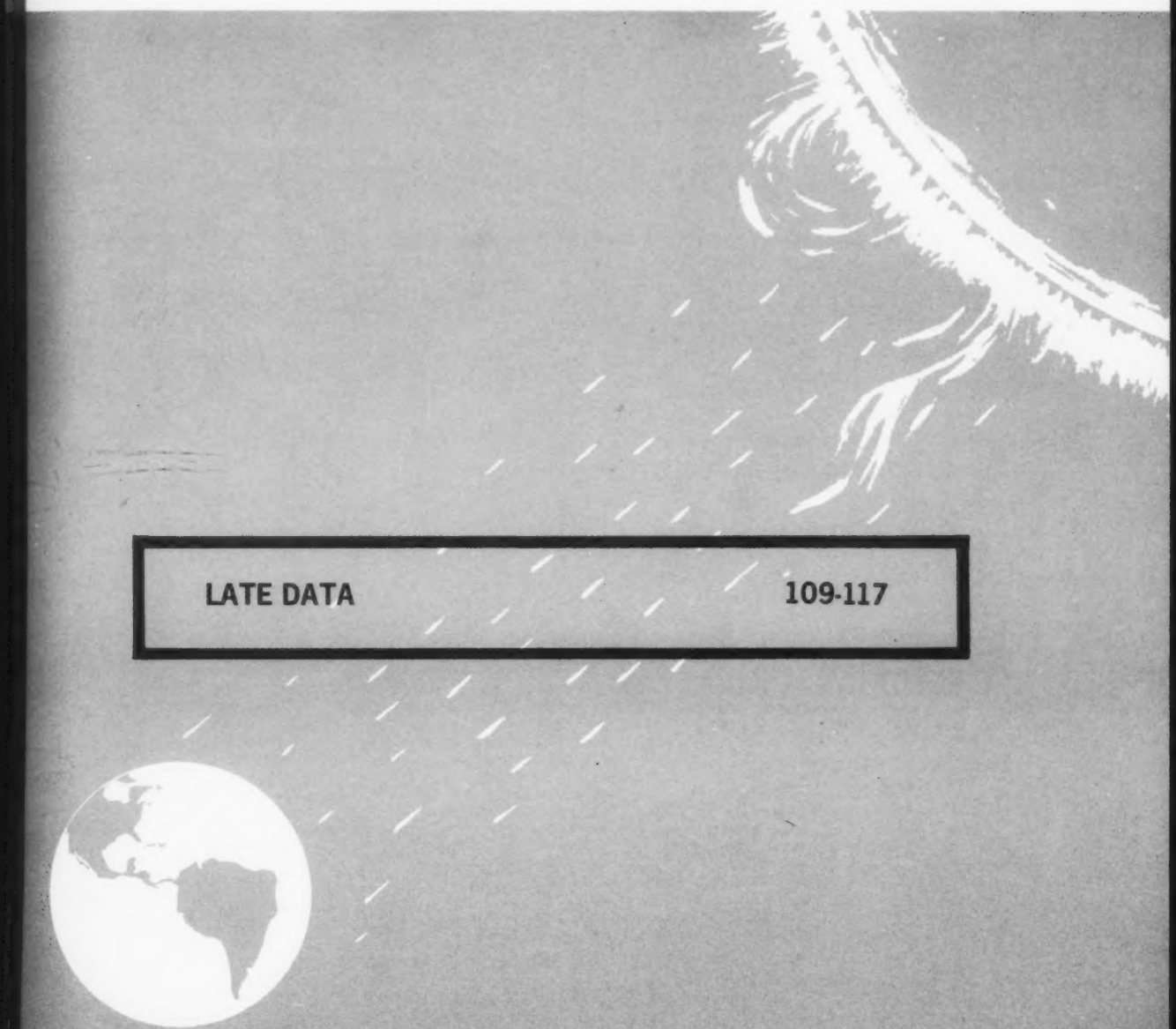
Astronomy QB 57 .A478 Part I

Solar-Geophysical Data prompt reports

Data for September 1983, August 1983 & Late Data

Explanation of Data Reports Issued as Number 462 (Supplement) February 1983



LATE DATA **109-117**

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Solar - Geophysical Data

Part I (Prompt Reports)

NO. 470 OCTOBER 1983

DATA FOR
SEPTEMBER 1983
AUGUST 1983

Michael A. Chinnery, Director
NATIONAL GEOPHYSICAL DATA CENTER
BOULDER, COLORADO

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4	Jan 59 - Dec 59	Microfilm	12	Oct 66 - Dec 66	Microfilm	20	Jan 71 - Jun 71	Microfilm
5	Jan 60 - Dec 60	Microfilm	13	Jan 67 - Dec 67	Microfilm	21	Jul 71 - Dec 71	Microfilm
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SOLAR-GEOPHYSICAL DATA

NUMBER 470

(Issued in Two Parts)

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The entry "464A 38" under Feb 1983, for example, means that the sunspot drawings for Feb 1983 appear in SOLAR-GEOPHYSICAL DATA No. 464, Part I, and that they begin on page 38. "A" denotes Part I and "B", Part II. Blanks indicate data not yet received and dashes mark unavailable data.

*Solar radio noise bursts observed at Athens, Learmonth, Manila, Palehua and Sagamore Hill during Aug 1979 through Oct 1980 appear in SOLAR-GEOPHYSICAL DATA, No. 461, Part II, pages 103-235.

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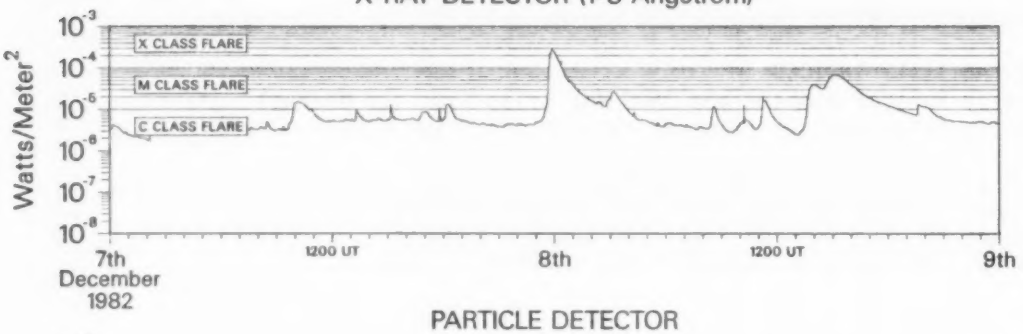
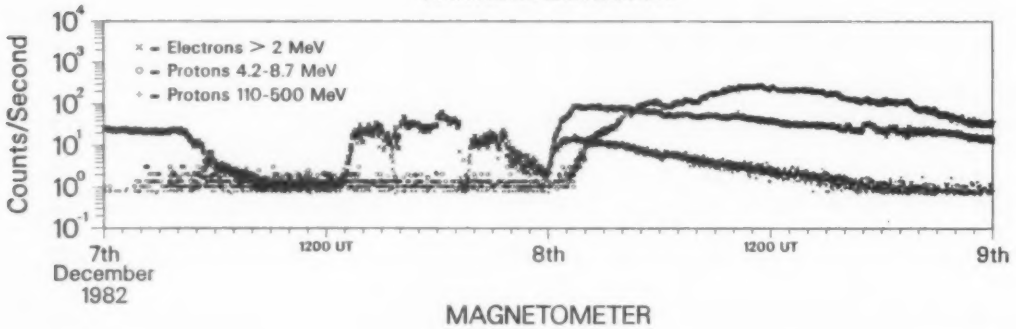
(108° West Longitude)

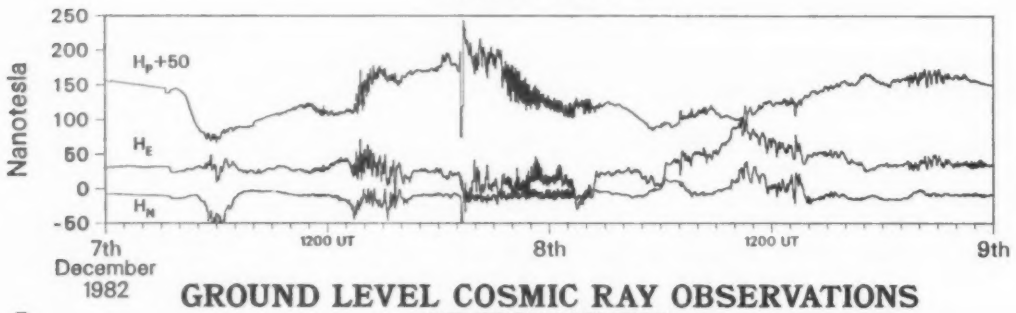
X-RAY DETECTOR (1-8 Angstrom)



PARTICLE DETECTOR

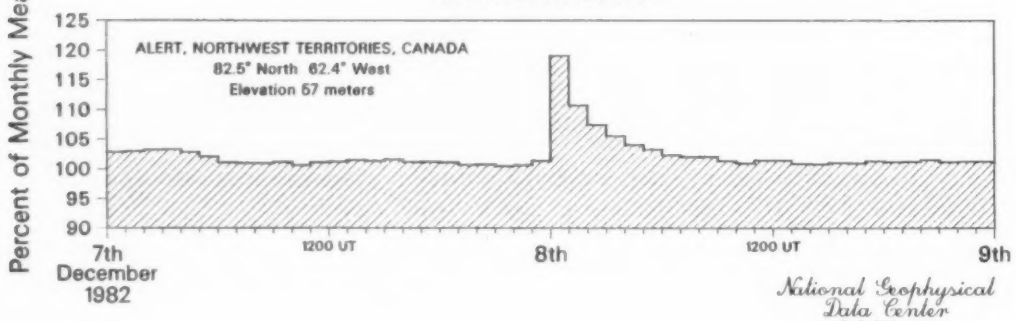


MAGNETOMETER



GROUND LEVEL COSMIC RAY OBSERVATIONS

NEUTRON MONITOR



National Geophysical Data Center
D.E. Wilkinson

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SUMMARY OF THE GEOALERT MESSAGES SEPTEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
244	01	31	083	102	021	S01W85	0	0	0		01	S01W85	Q	SOLQUIET
						S12W77	0	0	0			S12W77	Q	MAGQUIET
						S08W58	2	0	0			S08W58	Q	
						S16W24	0	0	0			S16W24	Q	
						S08W14	0	0	0			S08W14	Q	
						N12E60	0	0	0			N12E60	Q	
						S09E75	0	0	0			S09E75	Q	
245	02	01	063	111	019	S08W71	8	0	0		02	S08W71	Q	SOLQUIET
						S08W27	0	0	0			S08W27	Q	MAGQUIET
						N10E32	1	0	0			N10E32	Q	
						N13E47	0	0	0			N13E47	Q	
						S08E63	0	0	0			S08E63	Q	
246	03	02	080	109	009	S08W86	3	1	0		03	S08W86	Q	SOLQUIET
						S08W40	0	0	0			S08W40	Q	MAGQUIET
						N09E30	0	0	0			N09E30	Q	
						N13E33	0	0	0			N13E33	Q	
						S08E48	0	0	0			S08E48	Q	
						S10E70	2	0	0			S10E70	Q	
247	04	03	081	105	009	S08W53	0	0	0		04	S08W53	Q	SOLQUIET
						N09E06	0	0	0			N09E06	Q	MAGQUIET
						N13E20	0	0	0			N13E20	Q	
						S09E33	1	0	0			S09E33	Q	
						S10E55	2	0	0			S10E55	Q	
						S01E70	0	0	0			S01E70	Q	
248	05	04	098	109	004	S08W66	0	0	0		05	S08W66	Q	SOLQUIET
						N09W08	9	0	0			N09W08	Q	MAGQUIET
						N12E07	1	0	0			N12E07	Q	
						S11E41	0	0	0			S11E41	Q	
						S02E56	0	0	0			S02E56	Q	
						S11E68	0	0	0			S11E68	Q	
						N18E77	0	0	0			N18E77	Q	
249	06	05	101	116	004	S09W80	0	0	0		06	S09W80	Q	SOLQUIET
						N09W21	5	0	0			N09W21	E	MAGQUIET
						N13W06	1	0	0			N13W06	Q	
						S09E27	0	0	0			S09E27	Q	
						S02E44	0	0	0			S02E44	Q	
						S10E56	1	0	0			S10E56	E	
						N18E63	0	0	0			N18E63	Q	
250	07	06	098	119	010	N09W34	0	0	0		07	N09W34	E	SOLQUIET
						S10E13	0	0	0			S10E13	Q	MAGQUIET
						S01E30	0	0	0			S01E30	Q	
						S13E33	0	0	0			S13E33	Q	
						S10E42	0	0	0			S10E42	E	
						N18E50	0	0	0			N18E50	Q	
251	08	07	102	117	015	N09W48	3	0	0		08	N09W48	E	SOLQUIET
						S09W00	0	0	0			S09W00	Q	MAGQUIET
						S02E16	0	0	0			S02E16	Q	
						S10E29	0	0	0			S10E29	Q	
						N19E36	0	0	0			N19E36	Q	
						S23E41	0	0	0			S23E41	Q	
252	09	08	112	117	020	N10W62	1	0	0		09	N10W62	E	SOLQUIET
						S09W11	0	0	0			S09W11	E	MAGALERT
						N07W05	0	0	0			N07W05	Q	MINOR
						S02E03	0	0	0			S02E03	Q	RECURRENCE
						S13E03	0	0	0			S13E03	Q	09/XX
						S10E16	1	0	0			S10E16	Q	
						N19E23	0	0	0			N19E23	Q	
						S23E27	0	0	0			S23E27	Q	

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
253	10	09	101	114	013	N10W75	1	0	0		10	N10W75	Q	SOLQUIET
						S09W23	0	0	0			S09W23	Q	MAGNIL
						N07W19	0	0	0			N07W19	Q	
						S06W15	0	0	0			S06W15	Q	
						S11E04	0	0	0			S11E04	Q	
						S23E15	0	0	0			S23E15	Q	
254	11	10	116	108	011	N10W88	0	0	0		11	N10W88	Q	SOLQUIET
						S10W38	0	0	0			S10W38	Q	MAGQUIET
						N07W32	0	0	0			N07W32	Q	
						S06W29	0	0	0			S06W29	Q	
						S10W10	1	0	0			S10W10	Q	
						S23E01	0	0	0			S23E01	Q	
						N05E16	1	0	0			N05E16	Q	
						N11E23	0	0	0			N11E23	Q	
255	12	11	097	109	011	S09W52	3	0	0		12	S09W52	Q	SOLQUIET
						N07W44	0	0	0			N07W44	Q	MAGQUIET
						S10W24	1	0	0			S10W24	Q	
						S23W10	0	0	0			S23W10	Q	
						N05E00	1	0	0			N05E00	Q	
						S02E05	0	0	0			S02E05	Q	
						N11E10	0	0	0			N11E10	Q	
256	13	12	101	104	015	S08W66	0	0	0		13	S08W66	Q	SOLQUIET
						S09W37	1	1	0			S09W37	Q	MAGQUIET
						S22W24	0	0	0			S22W24	Q	
						N05W12	0	0	0			N05W12	Q	
						S02W09	0	0	0			S02W09	Q	
						N11W05	0	0	0			N11W05	Q	
						S31E06	0	0	0			S31E06	Q	
						S13E50	0	0	0			S13E50	Q	
257	14	13	082	103	010	S10W81	0	0	0		14	S10W81	Q	SOLQUIET
						S08W47	1	0	0			S08W47	Q	MAGQUIET
						S22W3S	3	0	0			S22W39	Q	
						N07W26	0	0	0			N07W26	Q	
						N13W19	0	0	0			N13W19	Q	
						S13E37	0	0	0			S13E37	Q	
258	15	14	060	104	008	S04W66	0	0	0		15	S04W66	Q	SOLQUIET
						S07W59	1	0	0			S07W59	Q	MAGQUIET
						N07W39	0	0	0			N07W39	Q	
						S13E24	1	0	0			S13E24	Q	
259	16	15	057	105	017	S08W72	0	0	0		16	S08W72	Q	SOLQUIET
						S22W64	0	0	0			S22W64	Q	MAGALERT
						S13E11	3	0	0			S13E11	E	MINOR 16/1
260	17	16	075	107	019	S08W83	0	0	0		17	S08W83	Q	SOLQUIET
						S22W78	0	0	0			S22W78	Q	MAGALERT
						S05W67	0	0	0			S05W67	Q	MINOR 17/1
						S04W44	0	0	0			S04W44	Q	
						S13W02	4	0	0			S13W02	E	
261	18	17	056	104	021	S04W81	4	0	0		18	S04W81	Q	SOLQUIET
						S12W15	3	0	0			S12W15	E	MAGALERT
						S08E73	0	0	0			S08E73	E	18/19 RECURRENCE
262	19	18	069	102	011	N14W82	1	0	0		19	N14W82	Q	SOLQUIET
						S06W53	0	0	0			S06W53	Q	MAGNIL
						S13W29	0	0	0			S13W29	E	
						S08E59	0	0	0			S08E59	Q	
263	20	19	060	100	032	N15W93	0	0	0		20	N15W93	Q	SOLQUIET
						S06W68	0	0	0			S06W68	Q	MAGALERT

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE

SEPTEMBER 1983

NO	DI	DO	WOLF	10CM	A	LOC	TOT	M	X	OUTSTANDING EVENTS	DA	LOC	DE	ALERTS
						S12W41	0	0	0			S12W41	Q	MINOR 20/21
						S09E45	0	0	0			S09E45	Q	RECURRENCE
264	21	20	054	100	017	S13W54	4	0	0		21	S13W54	Q	SOLQUIET
						N16W33	0	0	0			N16W33	Q	MAGALERT
						S11W12	0	0	0			S11W12	Q	MINOR 21/XX
						S08E33	1	0	0			S08E33	E	RECURRENCE
265	22	21	074	102	015	S12W69	1	0	0		22	S12W69	Q	SOLQUIET
						N17W46	0	0	0			N17W46	Q	MAGNIL
						S12W25	0	0	0			S12W25	Q	
						S09E19	0	0	0			S09E19	Q	
						S17E55	1	0	0			S17E55	Q	
						S19E85	0	0	0			S19E85	Q	
266	23	22	054	105	015	S13W84	3	0	0		23	S13W84	Q	SOLQUIET
						S08E06	1	0	0			S08E06	Q	MAGQUIET
						S16E41	0	0	0			S16E41	Q	
						S19E73	6	0	0			S19E73	Q	
267	24	23	048	112	003	S08W08	0	0	0		24	S08W08	Q	SOLQUIET
						S16E28	1	0	0			S16E28	E	MAGQUIET
						S20E57	2	0	0			S20E57	E	
268	25	24	064	111	010	S10W21	0	0	0		25	S10W21	Q	SOLQUIET
						S17E15	0	0	0			S17E15	Q	MAGALERT
						S21E45	5	0	0			S21E45	E	MINOR 25/XX
														RECURRENCE
269	26	25	066	111	021	S20W32	10	0	0		26	S20W32	E	SOLQUIET
						N07W09	0	0	0			N07W09	Q	MAGALERT
						S15E60	0	0	0			S15E60	Q	MINOR 26/XX
														RECURRENCE
270	27	26	083	115	029	S12W54	0	0	0		27	S12W54	Q	SOLQUIET
						N06W22	0	0	0			N06W22	Q	MAGALERT
						S20E19	3	0	0			S20E19	E	MINOR 27/XX
						S16E47	0	0	0			S16E47	Q	RECURRENCE
271	28	27	062	119	012	S13W70	0	0	0		28	S13W70	Q	SOLQUIET
						S20E06	0	0	0			S20E06	E	MAGNIL
272	29	28	065	114	014	S13W82	0	0	0		29	S13W82	Q	SOLQUIET
						S21W22	0	0	0			S21W22	Q	MAGQUIET
						S20W08	2	0	0			S20W08	Q	
273	30	29	051	114	011	S20W35	0	0	0		30	S20W35	Q	SOLQUIET
						S20W21	7	0	0			S20W21	E	MAGQUIET
274	01	30	047	114	005	S19W33	3	0	0		01	S19W33	E	SOLQUIET
						S15W01	1	0	0			S15W01	E	MAGQUIET

NO=MESSAGE SERIAL NUMBER, DI=DATE OF ISSUE, DO=DATE OF OBSERVATION, WOLF=WOLF NUMBER, 10CM=10CM SOLAR FLUX, A=A INDEX, LOC=LOCATION LAT-LONG, TOT=TOTAL, M=NUMBER OF M FLARES, X=NUMBER OF X FLARES, DA=DATE OF FORECAST, DE=DESCRIPTION, Q=QUIET, E=ERUPTIVE, A=ACTIVE, P=PROTON.

ALERT PERIODS
INTERNATIONAL URSIGRAM AND WORLD DAYS SERVICE
SEPTEMBER 1983

PRESTO MESSAGES (THE RAPID REPORT OF MAJOR EVENTS)

NO PRESTO MESSAGES THIS MONTH.

INTERNATIONAL* (R_I) RELATIVE SUNSPOT NUMBERS

Day	1982 Final Oct	Nov	Dec	1983 Final Jan	Feb	Mar	1983 Prov Apr	May	Jun	Jul	Aug	Sep
01	132	80	88	60	103	109	56	114	61	62	131	46
02	164	88	125	65	85	93	70	104	72	59	128	56
03	143	75	132	55	88	86	62	94	73	61	105	59
04	120	100	137	63	94	93	53	85	68	87	103	69
05	109	100	137	82	82	113	36	95	77	80	79	81
06	55	76	174	103	71	88	49	88	85	79	47	78
07	54	98	175	109	72	77	61	92	104	74	60	72
08	55	86	184	126	63	68	55	93	92	82	70	72
09	54	102	152	100	39	74	59	110	100	69	69	74
10	88	109	166	83	26	55	64	121	86	59	63	77
11	87	112	171	90	21	49	69	101	73	68	88	65
12	92	83	194	77	18	32	61	114	66	86	103	41
13	98	98	172	89	11	12	64	132	67	85	101	36
14	88	116	160	92	10	24	64	125	88	88	97	36
15	71	116	166	77	24	44	53	130	92	92	93	42
16	65	100	140	89	17	63	63	99	84	93	80	38
17	54	108	118	102	22	74	63	93	79	96	72	35
18	33	117	102	86	32	88	75	99	78	98	71	45
19	56	122	79	93	33	82	103	88	103	96	54	40
20	70	118	63	81	32	82	90	105	117	101	40	32
21	95	131	87	74	39	87	87	110	117	109	52	38
22	100	141	88	73	33	70	83	104	136	114	50	38
23	128	120	96	59	40	66	97	96	143	95	51	42
24	145	96	100	58	50	60	104	111	122	105	44	46
25	142	75	122	75	67	48	118	106	122	85	52	45
26	135	73	116	77	70	70	106	115	110	58	56	50
27	131	71	126	75	88	72	131	90	92	49	51	46
28	103	74	120	89	98	48	136	68	83	40	55	48
29	101	82	98	99		44	122	88	68	77	63	48
30	96	76	79	101		54	137	75	59	89	59	33
31	73		69	110		37		60		110	42	
Mean	95	98	127	84	51	66	80	100	91	82	72	51

*International sunspot numbers have replaced the Zurich values since January 1981.
The yearly mean sunspot number equaled 115.9 in 1982.

DAILY SOLAR FLUX AT 2800 MHz (10.7 CM) ADJUSTED TO 1 AU

ALGONQUIN RADIO OBSERVATORY, OTTAWA

Day	Oct 82	Nov	Dec	Jan 83	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
01	205.2	159.6	167.8	131.4	162.6	145.4	100.7	142.0	131.3	124.1*	151.1	110.5*
02	209.4*	154.5	166.3	131.4	156.5*	138.7	101.2	145.4	139.0*	125.4	145.4*	110.9
03	197.0A	147.4	181.6	136.2	145.5	141.0	101.4*	139.4	139.3	131.5	139.4*	106.4
04	182.3*	143.4	194.5	138.2	156.8	143.7	100.8	132.9	149.2	137.2	136.5	110.5
05	163.9	136.4	195.9*	154.6	154.3*	146.6	98.7	130.8	167.9*	132.1	136.5	117.6
06	151.9	142.1	210.4	161.6*	152.3	139.3	99.5	125.8*	191.4	132.4	142.0	120.7
07	140.2	142.3	244.3	163.3	142.2	132.3	102.2	117.4	179.5	132.7	141.9	118.6
08	136.9	144.8	241.7*	155.9*	133.3	128.1	104.1*	127.0	173.7	127.9	141.0	118.4
09	137.4	147.5A	258.6	150.0	121.9	122.0	106.1	132.2*	159.5*	123.1	142.9	115.3
10	134.8	152.9	273.5*	144.2	113.4	115.1	103.3	143.5*	150.5*	123.1	151.6	109.7
11	137.3	154.1	259.3*	139.3	106.9	103.0	104.4	159.3*	139.2	125.7	151.3	110.5
12	136.4	164.9	251.1	135.7	99.8	99.5*	107.7	160.4*	134.5	124.7	156.7*	104.9*
13	143.9	161.2	239.0	135.1	95.5	95.8	109.1	154.4	128.3	123.5	147.3	104.4
14	140.4	159.5	235.6	137.2	91.7	95.9	111.7	153.5*	126.4*	124.4	141.6*	105.2
15	134.1	157.0*	221.9	141.0	88.5	100.6*	103.6	145.7	128.7	124.6	135.8*	106.3*
16	129.8	163.3	213.2*	140.2	89.7	107.8	105.1	134.0*	128.8*	121.3	132.1	106.3*
17	130.1	158.0	200.5*	138.0	91.9	114.5	113.5	131.7*	130.7	120.0	126.8	105.1
18	132.8	170.2*	186.5	134.8	97.2	117.7	120.7	137.6	130.5	116.4*	122.2	102.5
19	136.7	182.3	176.8*	127.4	94.6	118.3	125.0	146.8	133.8	119.5	117.7	101.2
20	146.2*	189.2	159.2	120.5	97.3	120.7	127.4	151.8*	136.9	125.1	118.7	100.4
21	161.4	200.9	149.4	116.1	101.6	118.8*	133.3	149.8	144.0	128.1*	114.2	103.0
22	168.2	231.1*	150.1*	113.5	106.2	117.2	139.7	152.0	148.9	138.9	110.8	106.0
23	177.3*	196.1	157.0*	115.4	112.0	116.2	140.4	143.7	149.8	132.9*	110.8	112.6
24	190.9	172.9	166.8	114.1	114.3	117.1	142.7	140.5	141.7*	136.3*	108.7	111.8
25	196.8*	164.8	170.6	122.7	120.3	114.2*	145.6	138.8	141.4	136.7*	104.2	110.5*
26	193.5	168.8*	168.7	132.6	126.2	114.7*	146.8	132.3	144.1A	128.9*	105.8	114.6*
27	187.7*	158.6	166.2	133.6	138.3	109.6	149.6	130.5	137.1	123.1	103.7	119.8
28	181.4	160.3*	157.0	140.6	137.6	104.9	156.4*	133.1	129.4*	127.1	102.8	114.8
29	170.9*	161.4	147.3	148.9		98.9	148.4	139.0	128.9	138.5*	105.7	114.5
30	166.7	164.8	142.5	154.8		100.7	147.2	135.4*	126.8	144.3	104.0	113.0
31	165.1		134.4	161.9		98.7		138.0*		153.1*	104.2	
Mean	160.9	163.7	193.2	137.7	119.6	117.3	119.9	140.2	143.0	129.1	127.5	110.2

A = interpolated value.
*Adjusted for burst in progress at time of measurement.
The yearly mean 2800 MHz flux adjusted to 1 astronomical unit equaled 175.1 in 1982.

DAILY SOLAR INDICES

SEPTEMBER 1983

Day	Julian Day	Bartels Cycle Day	Sunspot Numbers R_I	Sunspot Numbers $R_{A'}$	Obs Flux Ottawa (2800)	Solar Flux Adjusted to 1 Astronomical Unit: SGMR (15400)	SGMR (8800)	SGMR (4995)	Ottawa (2800)	SGMR (2695)	SGMR (1415)	SGMR (606)	SGMR (410)	SGMR (245)
01	245	8	46	42	108.5*	553	264	141	110.5*	111	98	72	30	14
02	246	9	56	46	108.9	553	259	141	110.9	105	100	63	30	16
03	247	10	59	56	104.6	566	249	129	106.4	103	98	80	32	15
04	248	11	69	64	108.7	555	260	137	110.5	106	99	81	36	16
05	249	12	81	83	115.7	549	260	143	117.6	112	103	75	33	16
06	250	13	78	79	118.8	548	258	144	120.7	114	104	80	33	26
07	251	14	72	72	116.8	550	266	144	118.6	113	106	77	32	17
08	252	15	72	67	116.7	560	259	144	118.4	112	108	82	34	22
09	253	16	74	64	113.7	563	262	141	115.3	110	109	81	38	16
10	254	17	77	67	108.2	543	256	132	109.7	105	104	76	31	16
11	255	18	65	45	109.1	552	253	138	110.5	106	106	75	30	16
12	256	19	41	33	103.6*	555	282	155	104.9*	126	110	83	33	14
13	257	20	36	36	103.1	613	259	135	104.4	94	96	82	34	17
14	258	21	36	31	103.9	544	263	137	105.2	100	94	80	36	19
15	259	22	42	35	105.1*	552	270	140	106.3*	100	95	82	40	31
16	260	23	38	34	105.1*	542	270	143	106.3*	103	91	82	41	43
17	261	24	35	34	104.1	537	263	139	105.1	104	88	74	31	15
18	262	25	45	45	101.6	543	257	132	102.5	105	86	75	31	15
19	263	26	40	36	100.3	529	258	130	101.2	93	87	72	33	14
20	264	27	32	31	99.6	538	252	130	100.4	94	86	72	31	16
21	265	1	38	34	102.2	535	260	135	103.0	98	87	68	29	15
22	266	2	38	40	105.3	542	272	137	106.0	100	88	66	27	10
23	267	3	42	44	111.8	581	274	152	112.6	105	93	--	--	--
24	268	4	46	37	111.1	593	274	148	111.8	99	93	74	30	15
25	269	5	45	39	110.0*	589	267	146	110.5*	100	94	79	32	16
26	270	6	50	45	114.0*	582	268	152	114.6*	102	96	75	32	13
27	271	7	46	53	119.3	590	266	152	119.8	111	101	77	32	15
28	272	8	48	51	114.3	592	266	146	114.8	111	98	--	--	--
29	273	9	48	45	114.2	585	267	140	114.5	102	97	--	--	--
30	274	10	33	33	112.7*	---	---	---	113.0	---	---	--	--	--
Mean			51	47	109.0	560	263	140	110.2	105	97	76	32	18

*Adjusted for burst in progress at time of measurement.

The observed and the adjusted Ottawa fluxes tabulated above are the "Series C" daily values reported by the Algonquin Radio Observatory, Ottawa, Ontario, Canada. The letter "A" following an entry designates an interpolated flux. Numbers in parentheses in the column headings denote frequencies in MHz.

Equipment problems produced the gaps shown here in the Air Weather Service's Sagamore Hill (SGMR) observations.

The International and American sunspot numbers shown above are preliminary values.

OBSERVED AND PREDICTED SOLAR ACTIVITY INDICES

SEPTEMBER 1983

	RELATIVE SUNSPOT NUMBERS						2800 MHz RADIO FLUX Adjusted to 1 AU (S_a)	
	Zurich or Internat (R_I)		American (R_A)		Derived (R_S)			
Date	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed	Monthly Mean	Smoothed
Oct 79	186.2	158	178.2	144	171.7	145	216.4	192
Nov	183.3	162	176.5	149	182.9	149	226.8	196
Dec	176.3	164	157.6	152	151.0	152	197.2	199
Jan 80	159.6	164	145.3	153	153.6	154	199.6	200
Feb	155.0	163	133.9	154	148.7	155	195.1	200
Mar	126.2	161	107.9	153	117.8	153	166.5	200
Apr	164.1	159	138.5	151	164.0	152	209.3	198
May	179.7	156	172.3	149	185.4	151	229.1	197
Jun	157.3	155	153.6	149	153.2	151	199.3	198
Jul	136.3	153	136.0	144	144.1	151	190.8	197
Aug	135.4	150	133.0	144	121.9	150	170.3	196
Sep	155.0	150	150.0	146	138.8	152	185.9	198
Oct	164.7	150	160.8	149	157.1	154	202.9	200
Nov	147.9	148	149.9	149	168.5	153	213.4	199
Dec	174.4	143	167.5	145	174.3	150	218.8	196
Jan 81	114.0	140	115.4	144	120.5	149	169.0	195
Feb	141.3	142	143.7	146	153.5	152	199.5	198
Mar	135.5	143	149.2	149	157.5	156	203.2	202
Apr	156.4	143	169.2	149	180.7	158	224.7	204
May	127.5	143	141.3	149	152.8	159	198.9	204
Jun	90.9	142	99.0	147	112.9	158	161.9	203
Jul	143.8	140	154.3	146	152.1	157	198.2	203
Aug	158.7	141	170.4	147	182.1	158	226.0	203
Sep	167.3	143	174.5	148	177.7	158	221.9	204
Oct	162.4	142	157.0	146	178.6	156	222.8	202
Nov	137.5	139	138.8	142	157.6	151	203.3	197
Dec	150.1	138	145.0	140	155.5	149	201.4	195
Jan 82	111.1	137	110.4	139	124.2	148	173.4	195
Feb	163.6	133	161.0	134	163.6	144	208.9	191
Mar	153.8	129	155.5	130	163.0	139	208.3	186
Apr	122.0	124	121.9	124	113.9	134	162.9	182
May	82.2	120	82.6	120	97.7	129	147.9	177
Jun	110.4	117	113.5	118	129.6	127	177.4	175
Jul	106.1	115	113.3	117	116.0	125	164.8	174
Aug	107.6	109	110.5	111	123.9	120	172.1	168
Sep	118.8	101	117.8	103	118.5	112	167.1	161
Oct	94.7	96*	90.1	97	111.8	106	160.9	155
Nov	98.1	95*	93.2	95	114.8	103	163.7	153
Dec	127.0	94*	145.0	95	146.7	101	193.2	151
Jan 83	84.3	93*	82.8	93	86.7	98	137.7	148
Feb	51.0	90*	53.4	90	67.2	94	119.6	145
Mar	66.5	86*	60.5	**89**	64.7	90	117.3	141
Apr	79.7†	**84(4)***	74.5	**86**	67.5	**88**	119.9	---
May	100.2†	**81(9)***	97.7	**83**	86.1	**85**	137.1	---
Jun	90.6†	**78(12)***	93.1	**80**	92.4	**82**	143.0	---
Jul	82.1†	**77(14)***	82.2	**78**	77.4	**80**	129.1	---
Aug	71.9†	**76(17)***	69.2	**77**	75.7	**79**	127.5	---
Sep	50.9†	**75(19)***	---	**76**	57.0	**79**	110.2	---
Oct	---	**76(19)***	---	**77**	---	**80**	---	---
Nov	---	**76(20)***	---	**78**	---	**80**	---	---
Dec	---	**75(21)***	---	**77**	---	**79**	---	---
Jan 84	---	**74(22)***	---	**76**	---	**78**	---	---
Feb	---	**71(22)***	---	**72**	---	**75**	---	---
Mar	---	**66(23)***	---	**68**	---	**70**	---	---

*An asterisk marks either a value of the observed 12-month running mean or of a predicted 12-month average that is based in part on preliminary observations.

Boldface entries indicate predicted values and parentheses enclose the absolute value of the 90% confidence limits. All tabulated entries of the American sunspot number are final values. The two columns headed "Derived" represent a sunspot number computed from a linear regression equation between the 2800 MHz solar flux (adjusted to 1 astronomical unit) and the Zurich sunspot number.

†International numbers replaced the Zurich values in January 1981.

SMOOTHED OBSERVED AND PREDICTED SUNSPOT NUMBERS FOR CYCLE 21

SEPTEMBER 1983

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1976	15	13	12	13	13	12	13	14	14	13	14	15
1977	17	18	20	22	24	26	29	33	39	46	52	57
1978	61	65	70	77	83	89	97	104	108	111	113	118
1979	124	131	137	141	147	153	155	155	156	158	162	165*
1980	164	163	161	159	156	155	153	150	150	150	148	143
1981	140	142	143	143	143	142	140	141	143	142	139	138
1982	137	133	129	124	119	117	115	109	101	96	95	95
1983	93	90	86	84	81	78	77	76	75	76	76	75
				(4)	(9)	(12)	(14)	(17)	(19)	(19)	(20)	(21)
1984	74	71	66	62	61	61	60	58	56	52	50	48
	(22)	(22)	(23)	(24)	(25)	(26)	(27)	(27)	(27)	(26)	(26)	(26)
1985	46	45	45	45	43	41	39	38	37	37	36	36
	(25)	(24)	(23)	(23)	(23)	(22)	(21)	(20)	(20)	(21)	(21)	(22)
1986	35	33	32	30	27	25	22	21	20	19	18	17
	(22)	(23)	(23)	(22)	(21)	(21)	(20)	(20)	(18)	(17)	(16)	(14)

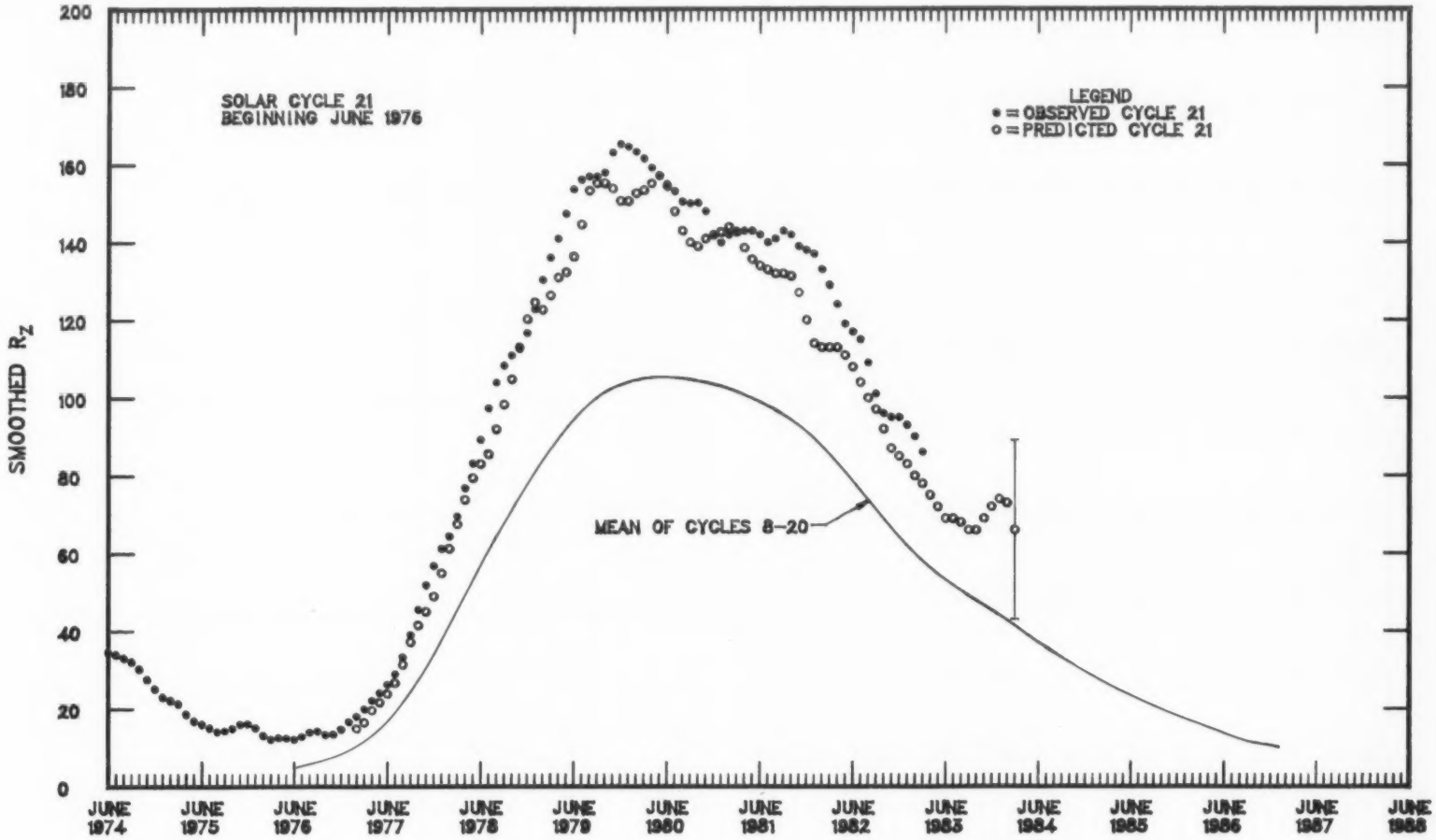
For the current solar cycle, this table gives observed smoothed sunspot numbers up to the one calculated from the most recently measured monthly mean. These smoothed observed values are based on final monthly mean Zurich numbers through 1980, on final international numbers through March 1983, and on provisional international numbers thereafter. Some table entries after the June 1976 value will change slightly, when we incorporate final data for 1983.

The entries with numbers in parentheses below them denote predictions by the McNish-Lincoln method. (See page 9 in the February 1983 edition of the "Solar-Geophysical Data" supplement.) By adding to and subtracting from each prediction the number in parentheses, one generates the 90% confidence interval. Consider, for example, the March 1984 prediction tabulated above. There exists a 90% chance that in March 1984 the actual smoothed sunspot number will fall somewhere between 43 and 89.

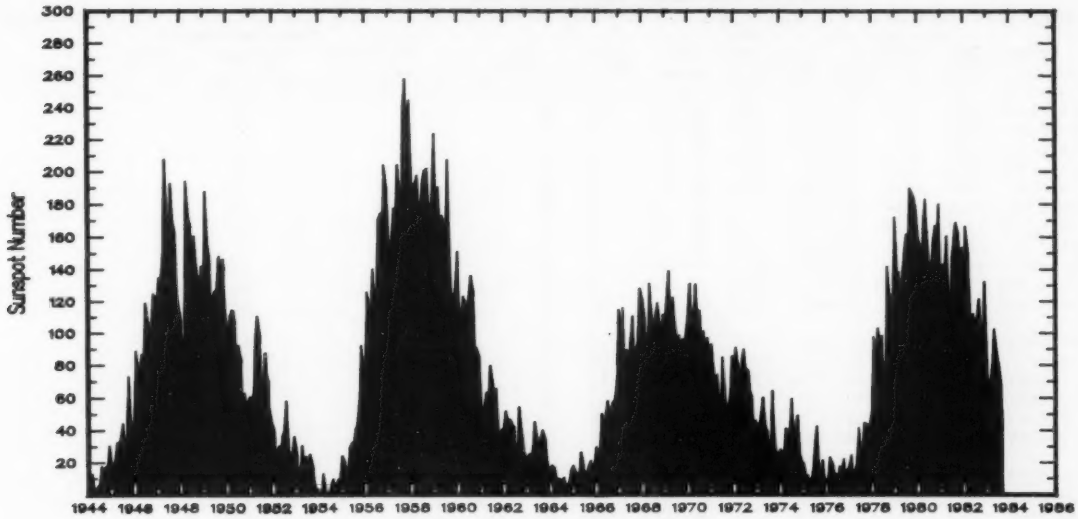
THE MCNISH-LINCOLN PREDICTION METHOD GENERATES USEFUL ESTIMATES OF SMOOTHED SUNSPOT NUMBERS FOR NO MORE THAN 12 MONTHS AHEAD. Beyond a year the predictions regress rapidly toward the mean of all 13 cycles of data used in the computation. Furthermore, the method is very sensitive to the date defined as the beginning of the current sunspot cycle, that is, to the date of the most recent sunspot minimum. In "Solar-Geophysical Data," issues 390-401, we based the current cycle predictions on March 1976 as the end of cycle 20 and the onset of the new cycle 21. Later studies, including one published by M. Waldmeier, showed that June 1976 was more appropriately the minimum epoch. We therefore generated this table using the June 1976 date.

*MAXIMUM OF SUNSPOT CYCLE 21. The maximum smoothed sunspot number occurred in December 1979.

OBSERVED AND ONE-YEAR-AHEAD PREDICTED SMOOTHED SUNSPOT NUMBERS



MONTHLY MEAN SUNSPOT NUMBERS
January 1944 – September 1983



MONTHLY MEAN SUNSPOT NUMBERS

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1944	3.7	0.5	11.0	0.3	2.5	5.0	5.0	16.7	14.3	16.9	10.8	28.4
1945	18.5	12.7	21.5	32.0	30.6	36.2	42.6	25.9	34.9	68.8	46.0	27.4
1946	47.6	86.2	76.6	75.7	84.9	73.5	116.2	107.2	94.4	102.3	123.8	121.7
1947	115.7	133.4	129.8	149.8	201.3	163.9	157.9	188.8	169.4	163.6	128.0	116.5
1948	108.5	86.1	94.8	189.7	174.0	167.8	142.2	157.9	143.3	136.3	95.8	138.0
1949	119.1	182.3	157.5	147.0	106.2	121.7	125.8	123.8	145.3	131.6	143.5	117.6
1950	101.6	94.8	109.7	113.4	106.2	83.6	91.0	85.2	51.3	61.4	54.8	54.1
1951	59.9	59.9	55.9	92.9	108.5	100.6	61.5	61.0	83.1	51.6	52.4	45.8
1952	40.7	22.7	22.0	29.1	23.4	36.4	39.3	54.9	28.2	23.8	22.1	34.3
1953	26.5	3.9	10.0	27.8	12.5	21.8	8.6	23.5	19.3	8.2	1.6	2.5
1954	0.2	0.5	10.9	1.8	0.8	0.2	4.8	8.4	1.5	7.0	9.2	7.6
1955	23.1	20.8	4.9	11.3	28.9	31.7	26.7	40.7	42.7	58.5	89.2	76.9
1956	73.6	124.0	118.4	110.7	136.6	116.6	129.1	169.6	173.2	155.3	201.3	192.1
1957	165.0	130.2	157.4	175.2	164.6	200.7	187.2	158.0	235.8	253.8	210.9	239.4
1958	202.5	164.9	190.7	196.0	175.3	171.5	191.4	200.2	201.2	181.5	152.3	187.6
1959	217.4	143.1	185.7	163.3	172.0	168.7	149.6	199.6	145.2	111.4	124.0	125.0
1960	146.3	106.0	102.2	122.0	119.6	110.2	121.7	134.1	127.2	82.8	89.6	85.6
1961	57.9	46.1	53.0	61.4	51.0	77.4	70.2	55.9	63.6	37.7	32.6	40.0
1962	38.7	50.3	45.6	46.4	43.7	42.0	21.8	21.8	51.3	39.5	26.9	23.2
1963	19.8	24.4	17.1	29.3	43.0	35.9	19.6	33.2	38.8	35.3	23.4	14.9
1964	15.3	17.7	16.5	8.6	9.5	9.1	3.1	9.3	4.7	6.1	7.4	15.1
1965	17.5	14.2	11.7	6.8	24.1	15.9	11.9	8.9	16.8	20.1	15.8	17.0
1966	28.2	24.4	25.3	48.7	45.3	47.7	56.7	51.2	50.2	57.2	57.2	70.4
1967	110.9	93.6	111.8	69.5	86.5	67.3	91.5	107.2	76.8	88.2	94.3	126.4
1968	121.8	111.9	92.2	81.2	127.2	110.3	96.1	109.3	117.2	107.7	86.0	109.8
1969	104.4	120.5	135.8	106.8	120.0	106.0	96.8	98.0	91.3	95.7	93.5	97.9
1970	111.5	127.8	102.9	109.5	127.5	106.8	112.5	93.0	99.5	86.6	95.2	83.5
1971	91.3	79.0	60.7	71.8	57.5	49.8	81.0	61.4	50.2	51.7	63.2	82.2
1972	61.5	88.4	80.1	63.2	80.5	88.0	76.5	76.8	64.0	61.3	41.6	45.3
1973	43.4	42.9	46.0	57.7	42.4	39.5	23.1	25.6	59.3	30.7	23.9	23.3
1974	27.6	26.0	21.3	40.3	39.5	36.0	55.8	33.6	40.2	47.1	25.0	20.5
1975	18.9	11.5	11.5	5.1	9.0	11.4	28.2	39.7	13.9	9.1	19.4	7.8
1976	8.1	4.3	21.9	18.8	12.4	12.2	1.9	16.4	13.5	20.6	5.2	15.3
1977	16.4	23.1	8.7	12.9	18.6	38.5	21.4	30.1	44.0	43.8	29.1	43.2
1978	51.9	93.6	76.5	99.7	82.7	95.1	70.4	58.1	138.2	125.1	97.9	122.7
1979	166.6	137.5	138.0	101.5	134.4	149.5	159.4	142.2	188.4	186.2	183.3	176.3
1980	159.6	155.0	126.2	164.1	179.9	157.3	136.3	135.4	155.0	164.7	147.9	174.4
1981	114.0	141.3	135.5	156.4	127.5	90.9	143.8	158.7	167.3	162.4	137.5	150.1
1982	111.2	163.6	153.8	122.0	82.2	110.4	106.1	107.6	118.8	94.7	98.1	127.0
1983	84.3	51.0	66.5	79.7*	100.2*	90.6*	82.1*	71.9*	50.9*			

*Provisional

H - ALPHA SOLAR FLARES

SEPTEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp Sec	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	01	0108	0109	0118	S09	W58	4302	08	27.7	10	SF		3	C		30		
LEAR	01	0109	0109	0114	S08	W58	4302	08	27.7	5	SF		3	C		27		
LEAR	01	0131	0132	0141	S08	W58	4302	08	27.7	10	SF		3	C		21		
PALE	01	0147	0152	0222	S10	W59	4302	08	27.6	35	SF		3	C		68		F
LEAR	01	0242	0248	0251	S10	W61	4302	08	27.5	9	SF		3	C		15		FE
LEAR	01	0325	0325	0334	N07	E33		09	3.6	9	SF		3	C		19		F
PURP	01	0327E	0327U	0329D	N06	E34		09	3.7	2D	SN			C	0327	34	.4	
RAMY	01	1320	1333	1336	S09	W65	4302	08	27.7	16	SF		3	C		12		
RAMY	01	1408	1416	1427	S10	W65	4302	08	27.7	19	SF		3	C		23		
HOLL	01	1659E	1705	1723D	S07	W68	4302	08	27.6	24D	SN	B 9.2	3	C		80		
RAMY	01	1753	1800	1807	S09	W67	4302	08	27.7	14	SF		3	C		13		
LEAR	02	0409	0409	0412	S09	W74	4302	08	27.6	3	SF		3	C		11		
RAMY	02	1605	1607	1613	S06	W75	4302	08	28.1	8	SN	C 6.0	2	C		34		
HOLL	02	1605	1607	1617	S05	W78	4302	08	27.8	12	SB	C 6.0	4	C		68		
HOLL	02	2001	2002	2008	S11	E71		09	8.2	7	SF		3	C		13		
HOLL	02	2233	2246	2321	S11	E70	4305	09	8.2	48	SN	B 5.5	3	C		42		
HOLL	02	2255	2257	2313	S08	W83	4302	08	27.7	18	1N	M 2.0	3	C		68		
HOLL	03	0003	0004	0007	S12	E74	4305	09	8.6	4	SF		3	C		31		
PURP	03	0802E	0804	0804D	S10	E65		09	8.2	2D	1N	C11.0		P	0804	72		
LEAR	03	0802	0806	0813	S11	E64	4305	09	8.1	11	SF	C 1.1	3	C		44		FH
ISTA	03	0807		0812	S03	E67		09	8.3	5	SF							D
HOLL	03	2230	2235	0034	S09	E37	4303	09	6.7	124	SB		3	C		171		US
PEKG	03	2330	2335	2340	S08	E36		09	6.7	10	1F			C	2335	168	2.2	U
HOLL	03	2343	2343	2359	S18	W57	4296	08	30.6	16	SF		3	C		13		
LEAR	04	0349	0352	0407	N10	E05	4304	09	4.5	18	SF		3	C		32		F
PEKG	04	0350	0355	0420	N10	E04		09	4.5	30	SN			C	0355	84	.9	E
PEKG	04	0452	0501	0525	N09	E04		09	4.5	33	SF			C	0501	168	1.7	E
PEKG	04	0545	0554	0635	N10	E03		09	4.5	50	SN			C	0554	84	.9	E
LEAR	04	0549	0550	0603	N10	E03	4304	09	4.5	14	SF		3	C		44		F
HOLL	04	1408	1414	1428	N14	E16	4301	09	5.8	20	SF		3	C		42		
HOLL	04	1815	1818	1822	N11	W02	4304	09	4.6	7	SF		3	C		30		F
HOLL	04	1838	1839	1858	N11	W03	4304	09	4.6	20	SF		3	C		30		F
HOLL	04	1859	1909	1913	N11	W03	4304	09	4.6	14	SN	B 7.0	3	C		45		
PALE	04	1904E	1909	1914	N10	W03	4304	09	4.6	10D	SF	B 7.0	3	C		48		
HOLL	04	2049	2051	2057	N11	W04	4304	09	4.6	8	SB	B 8.0	3	C		45		
HOLL	04	2111	2112	2123	N11	W06	4304	09	4.4	12	SN	B 6.2	3	C		35		F
HOLL	04	2136	2139	2145	N11	W04	4304	09	4.6	9	SN	B 5.6	3	C		33		F
PURP	05	0305E	0305	0305D	N09	W07		09	4.6	9D	SB			P	0305	90	.9	
LEAR	05	0611	0612	0622	N09	W08	4304	09	4.7	11	SF		3	C		46		E
LEAR	05	0822	0823	0826	N10	W11	4304	09	4.5	4	SF		3	C		22		E
RAMY	05	1113E	1120U	1130	N13	E04	4301	09	5.8	17D	SF		3	C		93		
RAMY	05	1342	1352	1405	S07	E62	4307	09	10.2	23	SF		3	C		21		
RAMY	05	1814	1827	1835	N10	W17	4304	09	4.5	21	SF		3	C		26		F
PALE	05	2007	2009	2020	S22	W81	4296	08	30.6	13	SN	C 5.0	3	C		95		
PALE	05	2017	2022U	2023D	N10	W17	4304	09	4.6	6D	SF		3	C		45		F
HOLL	05	2230	2239	2255	N08	W18	4304	09	4.6	25	SF		3	C		44		
PEKG	06	0536E	0542	0550	N06	W23		09	4.5	14D	SN			C	0542	59	.6	E
BUCA	06	0625		0635	N10	W24		09	4.5	10	SF			P	0630	43	.5	D
ISTA	07	0605		0615	S10	E08		09	7.9	10	SN							CF
RAMY	07	1311	1311	1324	N08	W42	4304	09	4.4	13	SF		3	C		30		
RAMY	07	1409	1435	1508	N08	W40	4304	09	4.6	59	SF		3	C		75		
PALE	07	1738	1742	1757	N06	W43	4304	09	4.5	19	SN	B 9.0	3	C		95		F
RAMY	07	1738	1742	1751	N08	W43	4304	09	4.5	13	SN	B 9.0	3	C		52		
LEAR	08	0329	0331	0338	N09	W50	4304	09	4.4	9	SN	B 4.7	3	C		55		F
LEAR	08	0427	0431	0456	S11	E25	4307	09	10.1	29	SF	B 7.6	3	C		86		FS
LEAR	08	0609	0611	0653	S10	W21	4303	09	6.7	44	SN	B 7.4	3	C		122		U
LEAR	09	0630	0632	0638	N11	W63	4304	09	4.5	8	SF		3	C		30		
HOLL	09	2307	2313	2329	N18	E08	4308	09	10.6	22	SF	B 4.6	3	C		139		F
PALE	09	2313	2314	2326	N19	E14	4308	09	11.0	13	SF		3	C		26		F
PALE	10	0213	0222U	0233	S13	E02	4307	09	10.2	20	SF	B 5.4	3	C		52		F
LEAR	10	0219	0221	0232	S10	E02	4307	09	10.2	13	SF	B 5.4	3	C		94		UF
BUCA	10	0705		0725	S20	E09		09	11.0	20	SN			P	0710	161	1.9	E

H - ALPHA SOLAR FLARES

SEPTEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (MIn)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} DIsk)	Area Measurement Corr (Sq Deg)	Remarks
PALE	10	2050	2102	2121	N03	E19		09	12.3	31	SN	C 1.0	3	C		61		F
YUNN	11	0719	0724	0743	N04	E14		09	12.4	24	SB			C		113	1.2	
ISTA	11	0720		0732	N05	E13		09	12.3	12	1F				0722			C
BUCA	11	0720	0725U	0744	N04	E12		09	12.2	24	SN			C	0725	107	1.1	E
PEKG	11	0721	0726	0755	N04	E13		09	12.3	34	SF			C	0726	71	.8	EU
LEAR	11	0721	0721	0739	N02	E14	4313	09	12.4	18	SF		3	C		53		F
HOLL	11	1632	1637	1646	S09	W45	4305	09	8.3	14	SF		3	C		16		
HOLL	11	1701	1702	1711	S09	W47	4305	09	8.2	10	SF		3	C		21		
HOLL	11	2058	2059	2108	S11	W24	4307	09	10.1	10	SF		3	C		35		F
HOLL	11	2335	2337	2356	S10	W51	4305	09	8.2	21	SF		3	C		37		
RAMY	12	1611	1627	1819	S11	W30	4307	09	10.4	128	2N	M 1.0	3	C		539		F
HOLL	12	1611	1626	1808	S11	W29	4307	09	10.5	117	2N	M 1.0	3	C		662		F
HOLL	12	1619	1626	1824	S05	W44	4312	09	9.4	125	SN		3	C		147		F
PALE	12	1722E	1728U	1753	S12	W30	4307	09	10.5	31D	SF		3	C		46		F
PALE	12	1722E	1729U	1755	S08	W47	4312	09	9.2	33D	SF		3	C		35		
RAMY	12	1728	1743	1755	S08	W46	4312	09	9.3	27	SF		3	C		158		
PALE	13	0143	0144	0154	S24	W23	4310	09	11.3	11	SF		3	C		30		
ISTA	13	0700E		0820	S24	E22		09	15.0	80D	1N							BU
RAMY	13	1606	1610	1620	S23	W33	4310	09	11.1	14	SF		3	C		31		F
PALE	13	1802	1803	1813	S24	W33	4310	09	11.2	11	SF	B 4.5	3	C		67		
HOLL	13	1822E	1822U	1836	S21	W35	4310	09	11.1	14D	SF		2	C		30		
HOLL	13	2231E	2232U	2253	S10	W46	4307	09	10.5	22D	SF	B 4.4	2	C		82		F
PEKG	14	0335	0342	0400	S23	W40		09	11.1	25	SF	B 5.5		C	0342	55	.9	E
YUNN	14	0339E	0339U	0356D	S23	W41		09	11.0	17D	SN	B 5.5		P	0339	16	.3	E
LEAR	14	0339	0341	0356	S23	W39	4310	09	11.1	17	SF	B 5.5	3	C		47		F
PEKG	14	0357	0403	0420	N09	W23		09	12.4	23	SF			C	0403	63	.7	E
PEKG	14	0442E	0442	0450	S05	W50		09	10.5	8D	SF			P	0442	50	.8	E
ATHN	14	0935	0938	1008	S11	E32		09	16.8	33	SB	C 1.8	3	V	0938	64	.8	
WEND	14	0935	0940	0957	S12	E33		09	16.9	22	SN	C 1.8		C	0940	37	.5	
WEND	14	1112	1117	1134	S13	E75		09	20.1	22	SF			C	1117	30		
ATHN	14	1229E	1233	1243	S04	W49		09	10.9	14D	SB		3	V	1233	48	.8	
PURP	15	0054E	0055	0058D	S14	E23		09	16.8	4D	SN			C	0055	27	.5	E
LEAR	15	0452	0453	0503	S11	E21	4317	09	16.8	11	SB	C 2.4	3	C		81		F
WEND	15	1111	1114	1130	S12	E63		09	20.2	19	SF			C	1114	38	.9	G
WEND	15	1123	1139	1152	S12	E17		09	16.8	29	SF			C	1139	94	1.0	
WEND	15	1247	1251	1300	S12	E16		09	16.7	13	SF			C	1251	88	1.0	
WEND	15	1406	1412	1430	S12	E15		09	16.7	24	SN	C 9.3		C	1412	106	1.2	
HOLL	15	1413E	1414U	1453	S13	E15	4317	09	16.7	40D	SB	C 9.3	3	C		195		F
HOLL	15	1630E	1640	1712	S07	W56		09	11.5	42D	SF		3	C		51		US
HOLL	15	1651	1702	1726	S14	E15	4317	09	16.8	35	SF		3	C		43		K
HOLL	15	1651	1719	1726	S14	E15	4317	09	16.8	35	SN	C 1.2	3	C		27		F K
YUNN	16	0651	0659	0710	S12	E06		09	16.7	19	SF			C		80	.9	T
YUNN	16	0725E	0734	0738D	S12	E05		09	16.7	13D	SN			P		80	.9	T
LEAR	16	0805	0807	0816	S12	E06	4317	09	16.8	11	SF		3	C		31		
YUNN	16	0906E	0906U	0936D	S12	E04		09	16.7	30D	SN			P	0906	80	.9	T
HOLL	16	1556	1605	1614	S12	E04	4317	09	17.0	18	SF	B 5.1	3	C		38		
HOLL	16	1917	1920	1924	S08	E89		09	23.5	7	SF	B 3.4	3	C		11		
PALE	16	2033E	2035U	2100	S12	W01	4317	09	16.8	27D	SF	B 4.8	3	C		90		
LEAR	17	0249	0301	0309	S03	W68	4315	09	12.0	20	SF		3	C		27		F
PEKG	17	0704	0709	0709D	S04	W74		09	11.8	5D	SF			P	0709	13		D
LEAR	17	0710	0711	0716	S04	W71	4315	09	12.0	6	SF		3	C		14		
LEAR	17	0753	0755	0807	S13	W08	4317	09	16.7	14	SF	B 3.3	3	C		21		
PEKG	17	0758E	0758	0758D	S04	W74		09	11.8	14D	SF			P	0758	13		D
PEKG	17	0758E	0758	0758D	S13	W08		09	16.7	14D	SF	B 3.3		P	0758	25	.3	E
LEAR	17	0759	0800	0804	S04	W72	4315	09	12.0	5	SF		3	C		16		
HOLL	17	1555	1556	1620	S13	W12	4317	09	16.8	25	SN	B 6.8	3	C		37		F
HOLL	17	1713	1723	1745	S13	W13	4317	09	16.7	32	SN	B 9.5	3	C		105		F
HOLL	17	1842	1846	1850	S04	W82	4315	09	11.6	8	SF	B 4.8	3	C		33		
LEAR	18	0138	0138	0152	N15	W64	4314	09	13.2	14	SF		3	C		18		
MANI	18	0138	0140	0150	N15	W64		09	13.2	12	SF		1	V		15	.3	
PALE	18	0140	0141	0148	N15	W64	4314	09	13.2	8	SF		3	C		15		
YUNN	20	0428E	0430	0435	S13	W47		09	16.6	7D	SN			P		32	.5	E

H - ALPHA SOLAR FLARES

SEPTEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
ATHN	20	0616	0619	0631	S12	W42		09	17.1	15	SN		2	V	0619	64	1.0	
LEAR	20	0728	0731	0748	S09	E39	4319	09	23.2	20	SN	B 6.5	3	C		91		S
ATHN	20	0738	0742	0745	S19	E39		09	23.3	7	SN		2	V	0742	95	1.4	
LEAR	20	0757	0805	0811	S13	W47	4317	09	16.8	14	SF		3	C		23		
YUNN	20	0809	0811	0814	S14	W50		09	16.6	5	SN			C		16	.3	DT
YUNN	20	0824	0834	0842	S15	W50		09	16.6	18	SN			C		64	1.1	ET
LEAR	20	0828	0831	0842	S13	W51	4317	09	16.5	14	SF		3	C		24		
YUNN	20	0846	0850	0901	S14	W50		09	16.6	15	1N			C		161	2.8	T
PALE	20	1742	1743	1746	S13	W51	4317	09	16.9	4	SF		3	C		19		
MANI	21	0204	0207	0215	S13	W57		09	16.8	11	SF		1	V		25	.5	
LEAR	21	0639	0643	0650	S17	E65		09	26.2	11	SN	C 1.7	3	C		33		
LEAR	22	0044	0046	0128	S09	E16	4319	09	23.2	44	SN	C 1.0	3	C		62		F
YUNN	22	0124E	0124	0151	S07	E16		09	23.3	27D	SN			P		284	1.1	E
RAMY	22	1504	1508	2002D	S14	W76	4317	09	16.9	298D	SF		3	C		28		K
RAMY	22	1504	1735	2002D	S14	W76	4317	09	16.9	298D	1N		3	C		128		K
HOLL	22	1534E	1535	1546	S12	W74	4317	09	17.1	12D	SF		3	C		15		
HOLL	22	1542	1544	1605	S21	E76	4324	09	28.5	23	SF		3	C		13		K
HOLL	22	1542	1601	1605	S21	E76	4324	09	28.5	23	SN		3	C		11		F K
HOLL	22	1655	1736	1803	S11	W75	4317	09	17.1	68	SN		3	C		36		
HOLL	22	1712	1716	1725	S21	E74	4324	09	28.4	13	SF	B 9.2	3	C		19		F
HOLL	22	1731	1732	1734	S21	E77	4324	09	28.6	3	SF		3	C		16		F
HOLL	22	1757	1758	1804	S21	E74	4324	09	28.4	7	SF		3	C		15		F
HOLL	22	1823	1824	1827	S21	E75	4324	09	28.5	4	SF		3	C		12		
HOLL	22	1823	1829	1903	S12	W75	4317	09	17.1	40	SF	B 9.7	3	C		19		K
HOLL	22	1823	1843	1903	S12	W75	4317	09	17.1	40	SN		3	C		22		K
HOLL	22	1958	1959	2004	S20	E72	4324	09	28.3	6	SF	C 1.1	3	C		25		
ISTA	23	0651		0700	S18	E37		09	26.1	9	SF							
YUNN	23	0651E	0652	0701	S17	E39		09	26.2	10D	SN	B 8.6		P		96	1.4	
LEAR	23	0651	0654	0701	S17	E38	4323	09	26.2	10	SF	B 8.6	3	C		46		
ISTA	23	0712		0717	S22	E68		09	28.5	5	SF							D
YUNN	23	0916	0921	0932	S19	E67		09	28.5	16	SN			C		8		D
WEND	23	1444	1449	1502	N11	W69		09	18.4	18	SN			C	1449	40		G
WEND	23	1516	1522	1543	N11	W70		09	18.4	27	SF			C	1522	38		G
HOLL	23	1542	1542	1558	S16	E59	4324	09	28.1	16	SF	B 4.7	3	C		66		F
RAMY	23	1544E	1544U	1550D	S14	E61	4324	09	28.3	6D	SF	B 4.7	3	C		38		
WEND	23	1603		1608D	N11	W70		09	18.4	5D	SN			C	1608	44		G
RAMY	23	1606	1608	1623	N11	W70	4322	09	18.4	17	SF		3	C		59		
HOLL	23	1609	1609	1614	N13	W69	4322	09	18.5	5	SF		3	C		14		
HOLL	23	1647	1649	1654	N17	W67	4322	09	18.6	7	SF		3	C		22		
PALE	23	1806	1809	1826	S19	E62	4324	09	28.5	20	SN	C 4.3	3	C		68		F
HOLL	23	1806	1807	1832	S21	E61	4324	09	28.4	26	SN	C 4.3	3	C		66		H
LEAR	24	0414	0418	0426	S21	E57	4324	09	28.5	12	SF	B 7.9	3	C		25		E
RAMY	24	1222	1223	1234	S20	E54	4324	09	28.6	12	SF		3	C		31		
RAMY	24	1626	1630	1748	S16	E45	4324	09	28.1	82	SN	C 1.2	3	C		18		
PALE	24	1724	1730	1737	S21	E50	4324	09	28.6	13	SF		3	C		39		F
PALE	24	1738	1741	1804	S19	E48	4324	09	28.4	26	SF		3	C		78		F
PURP	25	0157E	0215U	0257	S20	E45		09	28.5	60D	SB	C 1.7		C	0215	102	1.7	
PURP	25	0321E	0332U	0336	S17	E15		09	26.3	15D	SF			P	0332	21	.2	
LEAR	25	0324	0325	0337	S16	E14	4323	09	26.2	13	SF		4	C		57		
YUNN	25	0331E	0331U	0336	S16	E13		09	26.1	5D	SN			P	0331	64	.7	E
LEAR	25	0343	0344	0351	S20	E44	4324	09	28.5	8	SF	C 1.2	4	C		30		
LEAR	25	0501	0501	0517	S19	E43	4324	09	28.5	16	SF	B 9.8	3	C		34		
LEAR	25	0524	0526	0538	S20	E42	4324	09	28.4	14	SF	B 7.0	3	C		37		
LEAR	25	0857	0901	0911	S20	E40	4324	09	28.4	14	SF	B 8.6	3	C		41		
ISTA	25	0858		0909	S21	E41		09	28.5	11	SN	B 8.6						D
RAMY	25	1538	1539	1545	S16	E35	4324	09	28.3	7	SF		3	C		33		
HOLL	25	1539	1539	1544	S16	E33	4324	09	28.2	5	SF		3	C		25		
PALE	25	1718	1722	1728	S17	E33	4324	09	28.2	10	SF		3	C		26		
RAMY	25	1915	1927	2012	S17	E35	4324	09	28.5	57	SN	C 1.8	3	C		132		
HOLL	25	1922	1925	2020D	S18	E35	4324	09	28.5	58D	SN	C 1.8	4	C		164		F
PALE	25	1923	1928	2010	S20	E33	4324	09	28.3	47	SN	C 1.8	3	C		77		F
PALE	25	2129	2129	2141	S17	E30	4324	09	28.2	12	SF		3	C		41		
HOLL	25	2258	2300	2322	S18	E33	4324	09	28.5	24	SN	C 1.1	4	C		29		F
YUNN	26	0231E	0231U	0235	S18	E30		09	28.4	4D	SN			P	0231	48	.6	E
ISTA	26	0525		0540	S21	W40		09	23.2	15	SN							E

H - ALPHA SOLAR FLARES

SEPTEMBER 1983

Sta	Day	Start (UT)	Max (UT)	End (UT)	Lat	CMD	NOAA/ USAF Region	CMP Mo	CMP Day	Dur (Min)	Imp Opt	Imp Xray	Imp See	Obs Type	Area Measurement Time (UT)	Area Measurement Apparent (10^{-6} Disk)	Area Measurement Corr (Sq Deg)	Remarks
ISTA	26	0640		0644	S13	W16		09	25.1	4	SN							CD
LEAR	26	0859	0905	0920	S21	E19	4324	09	27.8	21	SF	B 6.4	3	C		40		UF
RAMY	26	1055	1105	1156	S19	E28	4324	09	28.6	61	SF		4	C		60		F
LEAR	26	2352	2356	0020	S17	E20	4324	09	28.5	28	SF		3	C		81		F
LEAR	27	0038	0038	0046	S15	E50	4326	09	30.8	8	SF		3	C		28		F
PURP	27	0041E	0041	0049	S17	E53		10	1.1	8D	SF			C	0041	21	.4	G
LEAR	27	0043	0044	0051	S22	E20	4324	09	28.6	8	SF	C 1.0	3	C		23		F
PURP	27	0046E	0046	0054	S23	E20		09	28.6	8D	SF	C 1.0		C	0046	41	.5	
LEAR	27	0108	0109	0112	S18	E17	4324	09	28.3	4	SF	B 5.5	3	C		42		
ISTA	27	0640		0645	S22	E12		09	28.2	5	SN							OK
YUNN	27	0648E	0648U	0649D	S14	W62		09	22.6	1D	1N			P	0648	96	2.3	D
YUNN	27	0732	0744U	0751	S14	W63		09	22.6	19	1N			P	0744	80		E
RAMY	27	1221	1223	1235	S15	E08	4324	09	28.1	14	SF		3	C		22		
RAMY	27	1615	1617	1621D	S23	E09	4324	09	28.4	6D	SF	B 9.1	3	C		85		F
LEAR	28	0112	0114	0126	S18	E04	4324	09	28.4	14	SN	B 9.5	3	C		98		F
PALE	28	0112	0114	0136	S18	E05	4324	09	28.4	24	SF	B 9.5	3	C		43		F
ISTA	28	0730		0739	S15	W01		09	28.2	9	SF							D
RAMY	28	1525	1525	1541	S20	W11	4324	09	27.8	16	SF		3	C		38		
HOLL	28	1541E	1546U	1549	S20	W12		09	27.7	8D	SF		3	C		21		
LEAR	29	0008	0009	0011	S22	W12	4324	09	28.1	3	SF	B 5.4	3	C		29		
LEAR	29	0229	0243	0309	S16	W13	4324	09	28.1	40	SF		3	C		68		F
PURP	29	0300E	0300	0309	S16	W12		09	28.2	9D	SF			P	0300	68	.8	
YUNN	29	0337	0338	0339	S21	W04		09	28.8	2	SN			C		113	1.3	
LEAR	29	0519	0522	0534	S22	W13	4324	09	28.2	15	SF	C 1.3	3	C		56		
LEAR	29	0536	0540	0546	S19	W18	4324	09	27.9	10	SF		3	C		35		F
LEAR	29	0632	0633	0656	S20	W19	4324	09	27.8	24	SF		3	C		66		
RAMY	29	1513	1513	1525	S21	W13	4324	09	28.6	12	SN		3	C		22		K
RAMY	29	1513	1518	1525	S21	W13	4324	09	28.6	12	SN	B 9.7	3	C		74		H K
RAMY	29	1638	1639	1700	S21	W14	4324	09	28.6	22	SF		3	C		67		
LEAR	30	0107	0110	0124	S18	W22	4324	09	28.4	17	SF		3	C		41		
PURP	30	0236	0237	0240	S18	W22		09	28.4	4	SN			C	0237	27	.3	D
LEAR	30	0319	0322	0336	S23	W23	4324	09	28.4	17	SF		3	C		36		
RAMY	30	1146	1147	1200	S14	E05	4326	09	30.9	14	SF		3	C		25		F

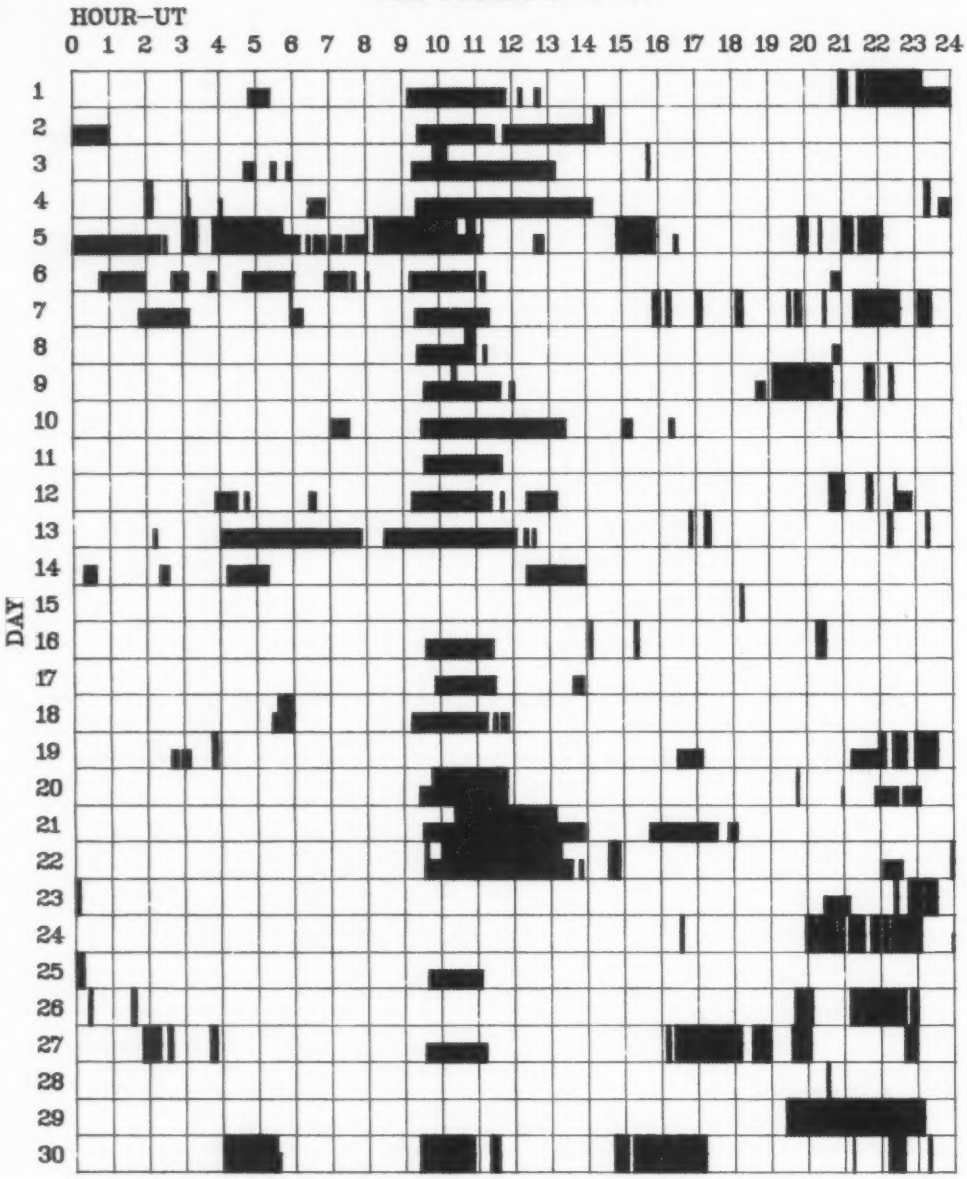
"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by high-speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the H and K lines of Ca II.
P = Flare shows helium D3 in emission.
Q = Flare shows Balmer continuum in emission.
R = Marked asymmetry in H-alpha line suggests ejection of high-velocity material.
S = Brightness follows disappearance of filament in same position.
T = Region active all day.
U = Two bright branches, parallel or converging.
V = Occurrence of an explosive phase: important, expansion within roughly 1 minute that often includes a significant intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide H-alpha line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

SEPTEMBER 1983



Observatories included in total patrol:

Athens	Holloman	Learmonth	Palehua	Ramey
Bucharest	Istanbul	Lvov	Peking	Wendelstein
			Purple Mt.	Yunnan

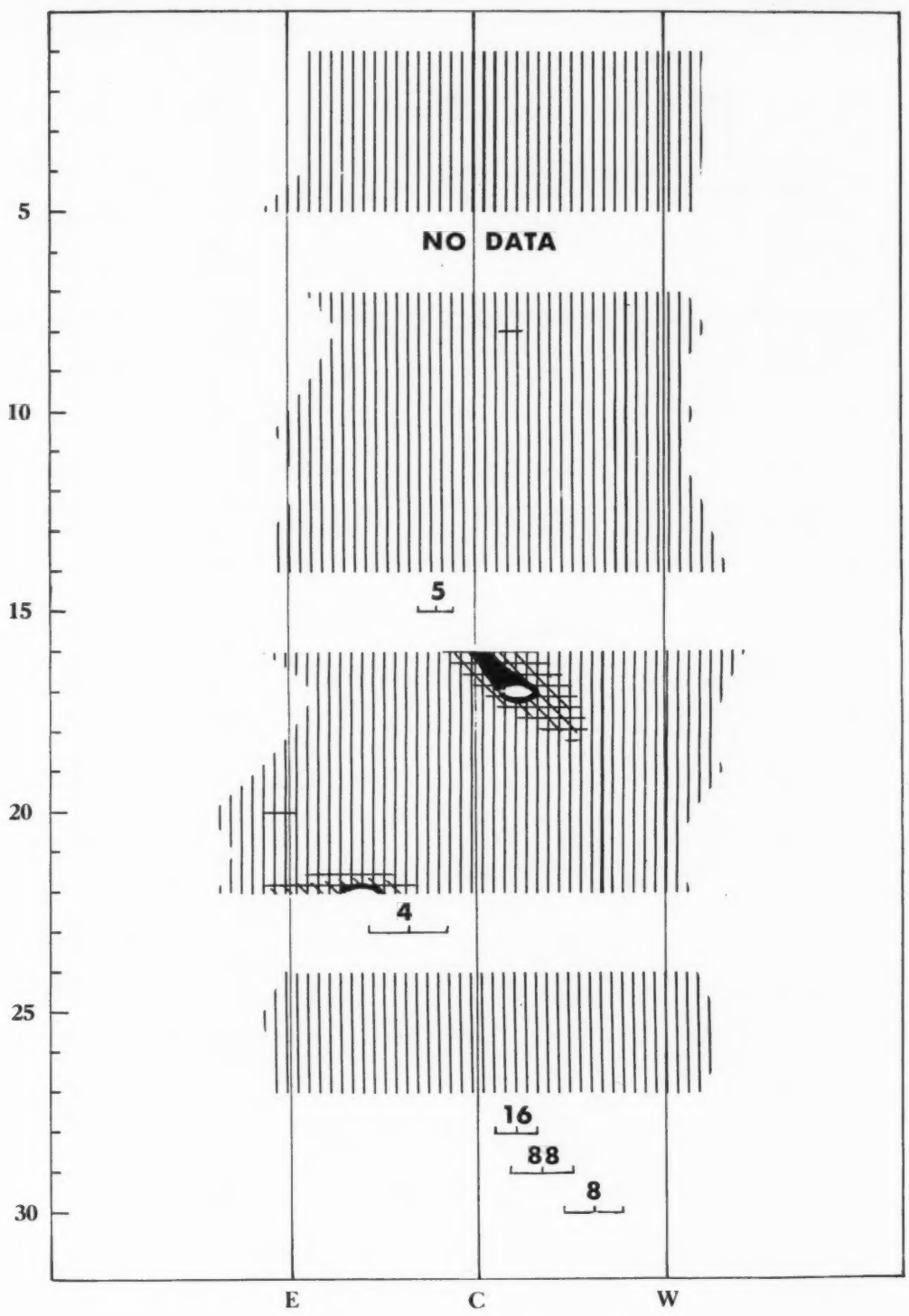
Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
INTERFEROMETRIC OBSERVATION

SEPTEMBER 1983

Nançay

169 MHz



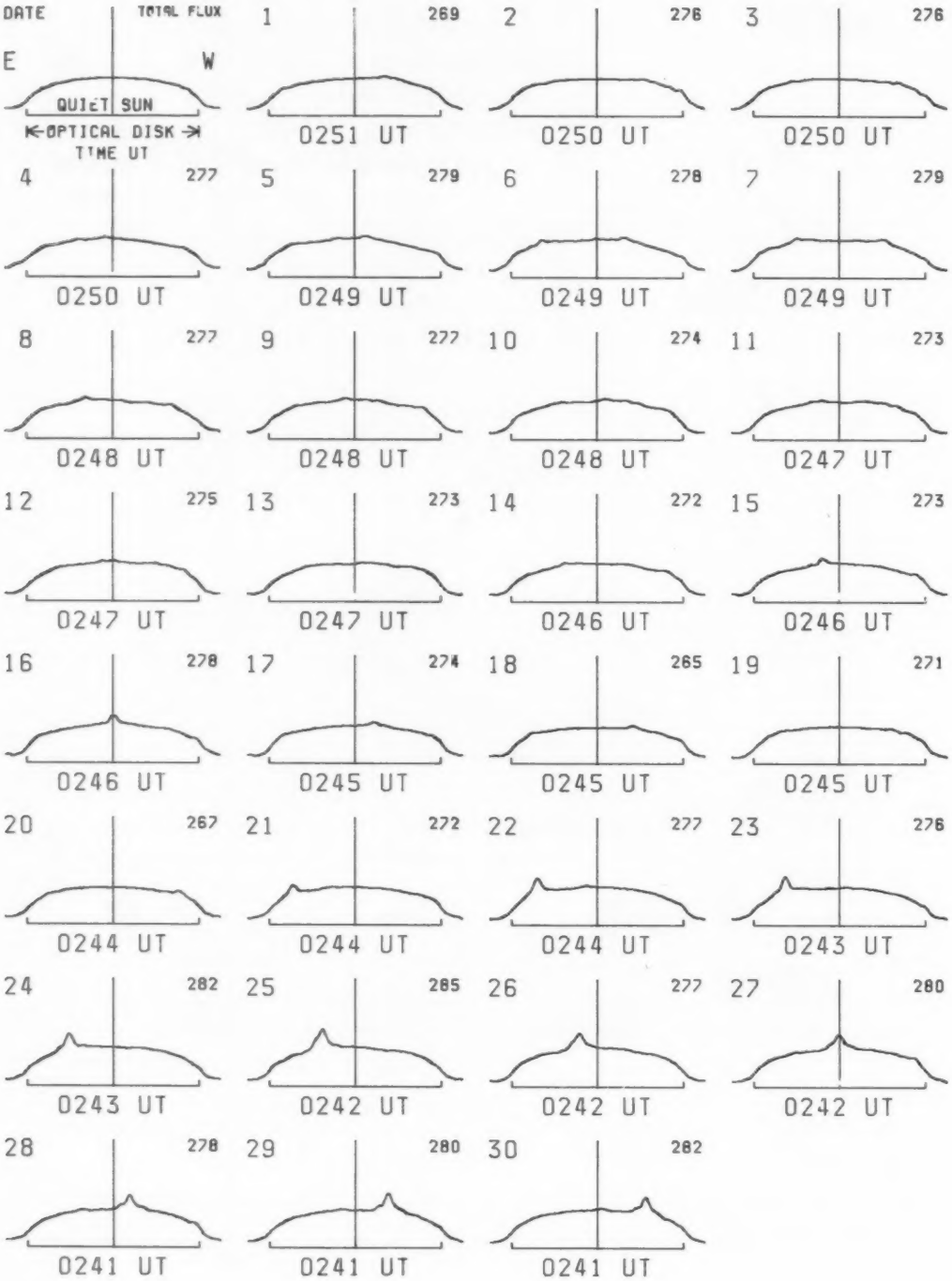
20
Sep 83

EAST-WEST SOLAR SCANS

SEPTEMBER 1983

TOYOKAWA, JAPAN

3 CM
FAN BEAM WITH 1.1 MINUTES OF ARC

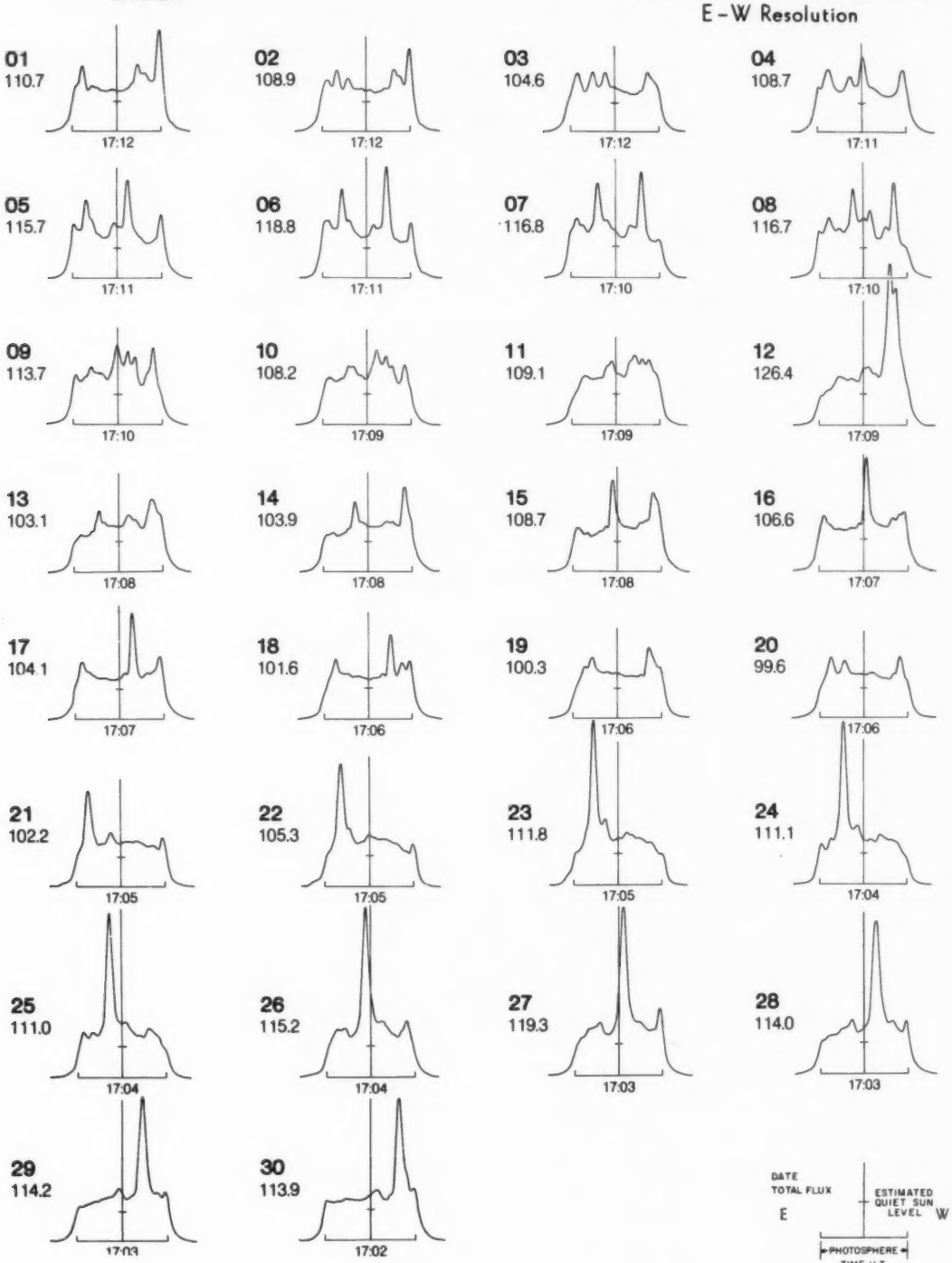


EAST-WEST SOLAR SCANS

SEPTEMBER 1983

ALGONQUIN RADIO OBSERVATORY
CANADA

10·7 cm
Fan Beam with 1·5 minutes of arc
E-W Resolution

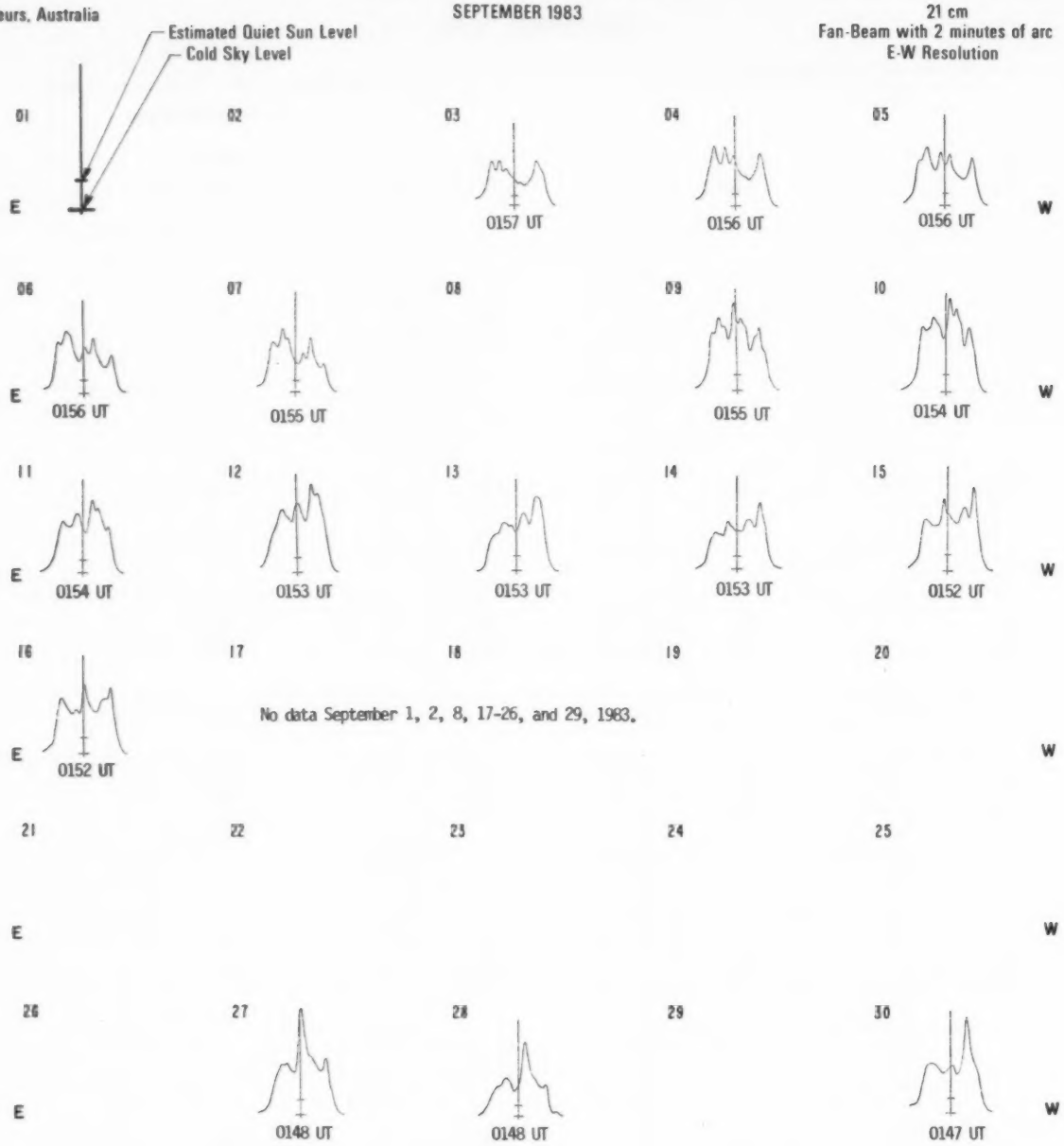


EAST-WEST SOLAR SCANS

Fleurs, Australia

SEPTEMBER 1983

21 cm
Fan-Beam with 2 minutes of arc
E-W Resolution

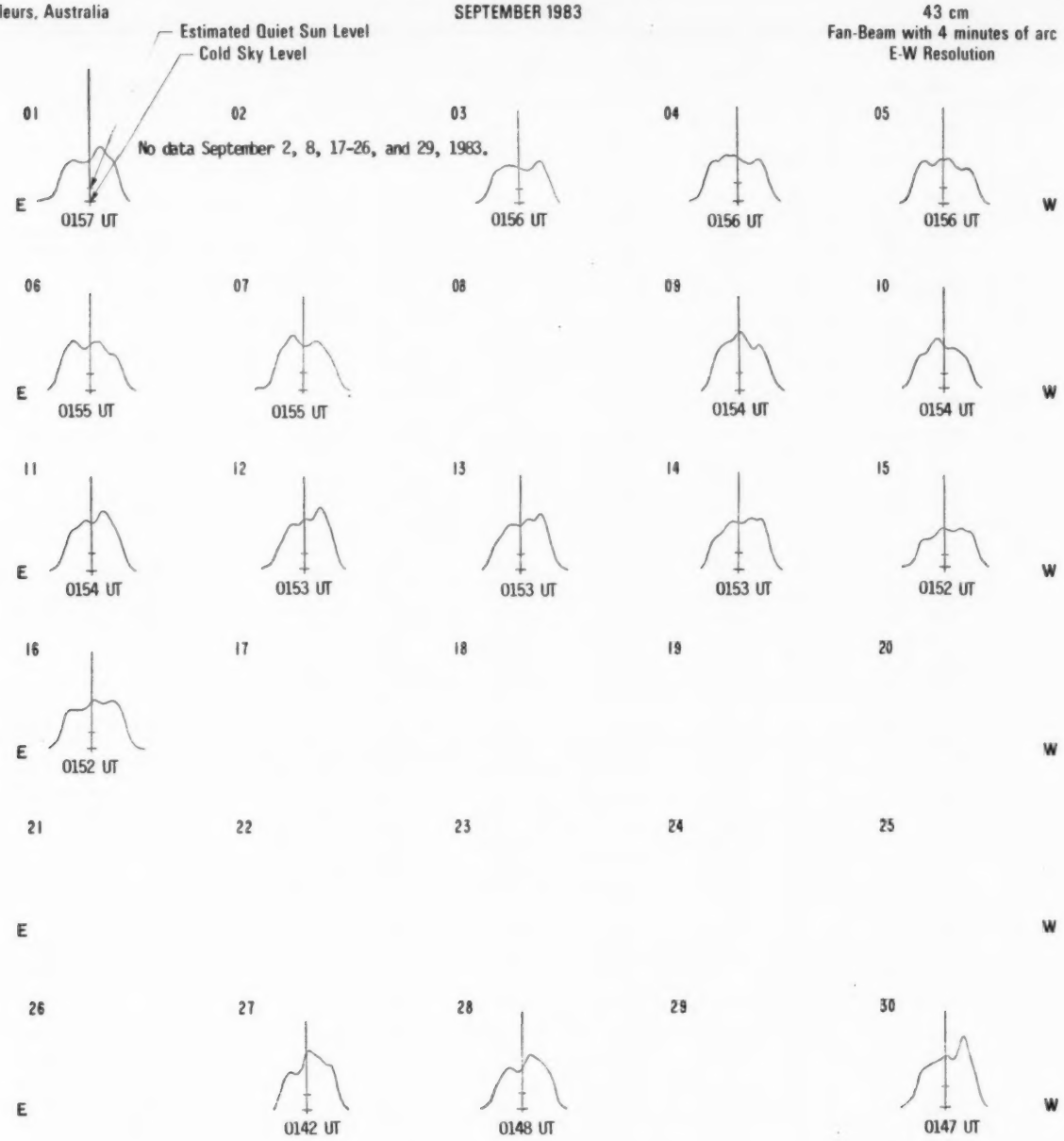


EAST-WEST SOLAR SCANS

Fleurs, Australia

SEPTEMBER 1983

43 cm
Fan-Beam with 4 minutes of arc
E-W Resolution



SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
01	2800	OTTA	240 R	1305.0	1340.0	35.0	2.2	1.1		
	2800	OTTA	240 R	1435.0	1450.0	15.0	2.2	1.1		
	2800	OTTA	20 GRF	1620.0		280.0	2.2	1.6		
02	2695	SGMR	47 GB	1255.5	1257.8	12.1	85.0			QL=6 ST=2 TYP=5
	2800	OTTA	4 S/F	1604.5	1606.0	5.0	14.2	6.0		
	2695	SGMR	8 S	1605.8	1606.3		20.0			QL=6 ST=3 TYP=3
	8800	SGMR	8 S	1606.0	1606.1		32.0			QL=6 ST=3 TYP=3
	2800	OTTA	1 S	1611.5	1613.0	9.0	3.4	1.2		
	2800	OTTA	1 S	2252.5	2252.8	1.5	2.4	1.1		
03	2800	OTTA	20 GRF	1420.0	1435.0	50.0	1.6	.8		
	2695	PENT	21 GRF	2225.0	2255.0	180.0D	5.8			
	2800	OTTA	8 S	2232.8	2232.9	.2	8.0			
04	2800	OTTA	240 R	1745.0	1940.0	115.0	5.0	2.4		
05	8800	ATHN	8 S	0831.0	0831.5	1.3	29.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1455.0	1458.0	40.0	2.2	1.1		
	2800	OTTA	20 GRF	1540.0	1555.0	75.0	2.2	1.1		
	2695	PENT	4 S/F	2004.2	2005.7	3.0	14.6	3.7		
	2695	SGMR	8 S	2005.3	2005.6	.8	21.0			QL=6 ST=2 TYP=3
06	2695	PENT	2 S/F	0113.2	0114.0	1.2	6.0	2.0		
	2695	LEAR	8 S	0113.3	0114.1	1.0	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0129.1	0129.3	.9	5.0			QL=6 ST=2 TYP=3
	8800	LEAR	4 S/F	0535.8	0537.1	4.2	8.0			QL=6 ST=2 TYP=3
	2695	LEAR	8 S	0536.8	0537.1	1.7	5.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1425.0	1545.0	100.0	2.4	1.2		
	2800	OTTA	20 GRF	1705.0	1750.0	55.0	2.0	1.0		
	2800	OTTA	23 GRF	2045.0	2115.0	60.0	2.0			
	2800	OTTA	1 S	2110.0	2110.2	1.5	1.8	.9		
07	2695	SGMR	4 S/F	1327.6	1329.1	5.4	30.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1415.0E	1435.0	60.0D	3.0			
	2695	PENT	20 GRF	2230.0	2300.0	150.0	2.0	1.3		
09	2695	PENT	20 GRF	2245.0	2315.0	115.0	3.0	1.0		
10	2800	OTTA	27 RF	2030.0		230.0	2.8	2.6		
	2800	OTTA	24 R	2030.0	2055.0	25.0	2.8	1.0		
	2800	OTTA	24P R	2055.0		165.0	2.8			
	2695	PENT	26 FAL	2340.0	0020.0	40.0	-2.8	-1.4		
12	2800	OTTA	20 GRF	1610.0	1705.0	345.0	23.0	11.5		
	2695	SGMR	4 S/F	1620.1	1625.3	13.7	35.0			QL=6 ST=2 TYP=3
	8800	SGMR	4 S/F	1629.8	1629.8	4.0	18.0			QL=6 ST=2 TYP=3
13	2800	OTTA	20 GRF	1415.0E	1425.0	55.0D	2.4			
14	8800	ATHN	4 S/F	0935.0	0936.8	6.5	26.0			QL=6 ST=2 TYP=3
	2695	ATHN	4 S/F	0935.1	0936.8	6.5	7.0			QL=6 ST=2 TYP=3
15	8800	LEAR	4 S/F	0450.3	0451.8	10.0	18.0			QL=6 ST=2 TYP=3
	2695	LEAR	4 S/F	0450.8	0452.0	7.7	13.0			QL=6 ST=2 TYP=3
	8800	SGMR	47 GB	1412.8	1413.6	7.0	57.0			QL=6 ST=3 TYP=5
	2695	SGMR	47 GB	1413.1	1414.1	4.5	88.0			QL=6 ST=3 TYP=5
	2800	OTTA		1415.0E	1417.0	105.0D	15.4			
	2800	OTTA	20 GRF	1630.0	1655.0	130.0	3.6	1.8		
16	2800	OTTA	21 GRF	1415.0E	1425.0	245.0D	2.2	1.4		
	2800	OTTA	20 GRF	1555.0	1556.0	30.0	1.4	.7		
17	2800	OTTA	20 GRF	1710.0	1725.0	50.0	2.2	1.1		
18	2800	OTTA	26 FAL	1725.0	1750.0	25.0	-1.6	-.8		
	2800	OTTA	20 GRF	1915.0	2040.0	315.0	4.4	3.2		
20	2800	OTTA	8 S	1615.1	1615.3	.5	5.8	2.9		
21	2800	OTTA	240 R	1610.0	1710.0	60.0	2.0	1.0		

SOLAR RADIO EMISSION
SELECTED FIXED FREQUENCY EVENTS

SEPTEMBER 1983

Day	Freq	Sta	Type	Start (UT)	Time of Maximum (UT)	Duration (Min)	Flux Density Peak (10 -22 W/m 2 Hz)	Flux Density Mean (10 -22 W/m 2 Hz)	Int	Remarks
21	2800	OTTA	1 S	2139.2	2139.6	2.0	4.0	1.2		
22	2800	OTTA	240 R	1705.0	1800.0	55.0	2.0	1.0		
	2800	OTTA	20 GRF	1915.0	1940.0	80.0	2.0	1.3		
23	2800	OTTA	240AR	1540.0	1544.0	4.0	2.0			
	2800	OTTA	8 S	1542.0	1542.5	.8	24.0			
	2800	OTTA	20 GRF	1645.0	1715.0	50.0	1.4	.7		
	2800	OTTA	3 S	1805.0	1806.5	7.0	11.0	3.7		
	8800	PALE	8 S	1805.8	1806.1	.8	28.0			QL=6 ST=2 TYP=3
	8800	SGMR	8 S	1826.6	1826.6	.4	27.0			QL=6 ST=2 TYP=3
	2800	OTTA	20 GRF	1930.0	2000.0	130.0	3.6	1.8		
24	2800	OTTA	20 GRF	1530.0	1550.0	75.0	2.0	1.4		
	2800	OTTA	21 GRF	1820.0	1832.0	170.0	2.8	1.2		
	2800	OTTA	8 S	1931.0	1931.5	.7	4.0	2.0		
25	2800	OTTA	23 GRF	1650.0	1930.0	255.0	5.4	2.4		
	2800	OTTA	2 S/F	1922.5	1926.0	7.0	2.4	1.2		
26	2800	OTTA	20 GRF	1205.0	1210.0	65.0	3.4	1.7		
	2800	OTTA	20 GRF	1545.0	1550.0	125.0	2.4	1.2		
	2695	SGMR	8 S	1805.6	1805.6	.2	11.0			QL=6 ST=2 TYP=3
	2800	OTTA	240 R	1835.0	1845.0	70.0	2.6	1.3		
27	2800	OTTA	240 R	1525.0	1615.0	50.0	2.6			
28	2800	OTTA	22 GRF	1520.0	1530.0	65.0	2.0	1.0		
	2800	OTTA	20 GRF	2035.0	2040.0	25.0	3.2	1.6		
29	2695	LEAR	4 S/F	0521.0	0522.0	2.1	9.0			QL=6 ST=2 TYP=3
	2800	OTTA	240 R	1930.0	1945.0	15.0	2.0	1.0		
30	2800	OTTA	20 GRF	1305.0	1425.0	295.0	5.0	2.5		

Reports are received routinely from the following observatories:

ATHN = Athens
BERN = Berne
BORD = Bordeaux
CRIM = Crimea
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
IRKU = Irkutsk
IZMI = IZMIRAN
KISV = Kislovodsk
KRAK = Krakow
LEAR = Learmonth
MANI = Manila
NAGO = Nagoya
NOBE = Nobeyama
ONDR = Ondrejov
OTTA = Ottawa
PALE = Palehua
PEKG = Peking
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
UPIC = Upice
VORO = Voroshilov

Explanation of Type Code:

1 Simple 1
2 Simple 1F
3 Simple 2
4 Simple 2F
5 Simple
6 Minor
7 Minor +
8 Spike
20 Simple 3
21 Simple 3A
22 Simple 3F
23 Simple 3AF
24 Rise
25 Rise A
26 Fall
27 Rise and Fall
28 Precursor
29 Post Burst Increase
30 Post Burst Increase A
31 Post Burst Decrease
33 Absorption
40 Fluctuation
41 Group of Bursts
42 Series of Bursts
43 Onset of Noise Storm
44 Noise Storm In Progress
45 Complex
46 Complex F
47 Great Burst
48 Major

1A Simple 1A
3A Simple 2A
21A Simple 3A GRF
2A Simple 1AF
4A Simple 2AF
240 Rise only
240F Rise only F
24P Post Rise
24PF Post Rise F
16A Fall A
260 Fall Only
26F Fall F
27F Rise and Fall F
27AF Rise and Fall AF
31A Post Burst Decrease A
32A Absorption A
46F Complex F

Remarks:

QL = Quality (1=poor to 6=excellent)
ST = Status (1=real time; 2=final; 3=correction; 4=deletion)
TYP= Type (1=noise storm;2=rise in base level;3=minor;4=group;5=major;6=major plus;7=Castelli U-type burst)

INFERRED IP MAGNETIC FIELD

BARTELS ROTATION	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
2031	MAR 3	-	-	-	-	-	TA -	TA -	-	TA -	TA -	-	TA -	-	-	TA -	-	-	-	TA -	TA -	-	-	-	-	-	-	AT -
2032	MAR 30	-	TA -	-	TA -	-	-	-	-	-	-	TA -	-	-	-	-	-	AT -	TA -	-	TA -	-	-	-	-	-	-	-
2033	APR 26	-	AT -	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AT -	AT -	-
2034	MAY 23	-	-	-	AT -	-	TA -	-	-	-	-	-	AT -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	TA -
2035	JUN 19	-	-	-	-	-	-	-	-	-	-	-	-	TA -	-	-	-	-	-	-	-	-	-	TA -	-	-	-	-
2036	JUL 16	-	-	-	-	-	TA -	-	-	-	-	AT -	-	-	-	AT -	-	-	-	-	-	-	-	x	-	-	-	x -
2037	AUG 12	-	-	-	-	-	-	-	-	TA -	-	-	TA -	TA -	TA -	-	-	-	TA -	-	TA -	-	-	-	-	-	-	-
2038	SEP 8	TA -	AT -	-	-	-	-	-	-	-	-	-	-	-	TA -	-	AT -	-	-	-	-	-	TA -	-	-	-	-	-
2039	OCT 5	-	AT -	-	AT -	-	-	-	-	-	AT -	TA -	-	-	-	-	AT -	-	-	-	-	-	-	-	TA -	-	-	-
2040	NOV 1	AT -	-	-	-	AT -	-	-	-	-	AT -	-	-	-	-	AT -	-	-	TA -	-	-	-	-	-	TA -	AT -	-	-
2041	NOV 28	TA -	-	-	-	-	AT -	-	-	-	-	-	-	TA -	TA -	-	-	-	-	-	-	-	AT -	AT -	-	-	-	-
2042	DEC 25	-	-	AT -	AT -	-	-	-	TA -	-	-	-	-	-	-	-	-	-	TA -	TA -	-	-	-	AT -	-	-	-	-
2043	1983 JAN 21	-	-	-	-	-	-	-	-	-	TA -	-	-	-	-	TA -	AT -	-	-	-	-	-	-	-	-	-	-	-
2044	FEB 17	-	-	-	-	-	-	-	-	-	-	TA -	-	-	TA -	-	TA -	TA -	-	AT -	TA -	TA -	-	TA -	-	-	-	-
2045	MAR 16	-	-	AT -	AT -	AT -	-	-	-	-	-	AT -	-	-	-	-	AT -	-	TA -	-	-	-	-	-	-	-	-	-
2046	APR 12	-	-	TA -	-	-	-	-	-	-	-	-	-	TA -	-	-	-	AT -	TA -	AT -	-	-	-	-	AT -	AT -	AT -	-
2047	MAY 9	-	-	AT -	-	-	AT -	-	-	-	AT -	AT -	-	-	-	-	-	-	AT -	-	-	-	-	-	AT -	-	-	AT -
2048	JUN 5	-	-	AT -	-	AT -	-	AT -	AT -	-	AT -	AT -	-	-	AT -	AT -	AT -	-	-	AT -	-	-	-	AT -	-	-	-	-
2049	JUL 2	-	-	-	-	-	-	-	-	-	-	-	-	-	AT -	-	-	AT -	-	-	AT -	-	AT -	-	-	-	-	-
2050	JUL 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	AT -	AT -	-	-
2051	AUG 25	-	-	-	AT -	-	-	-	-	-	-	-	-	-	-	AT -	-	-	-	-	AT -	-	AT -	-	-	-	-	AT -
2052	SEP 21	-	AT -	-	AT -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

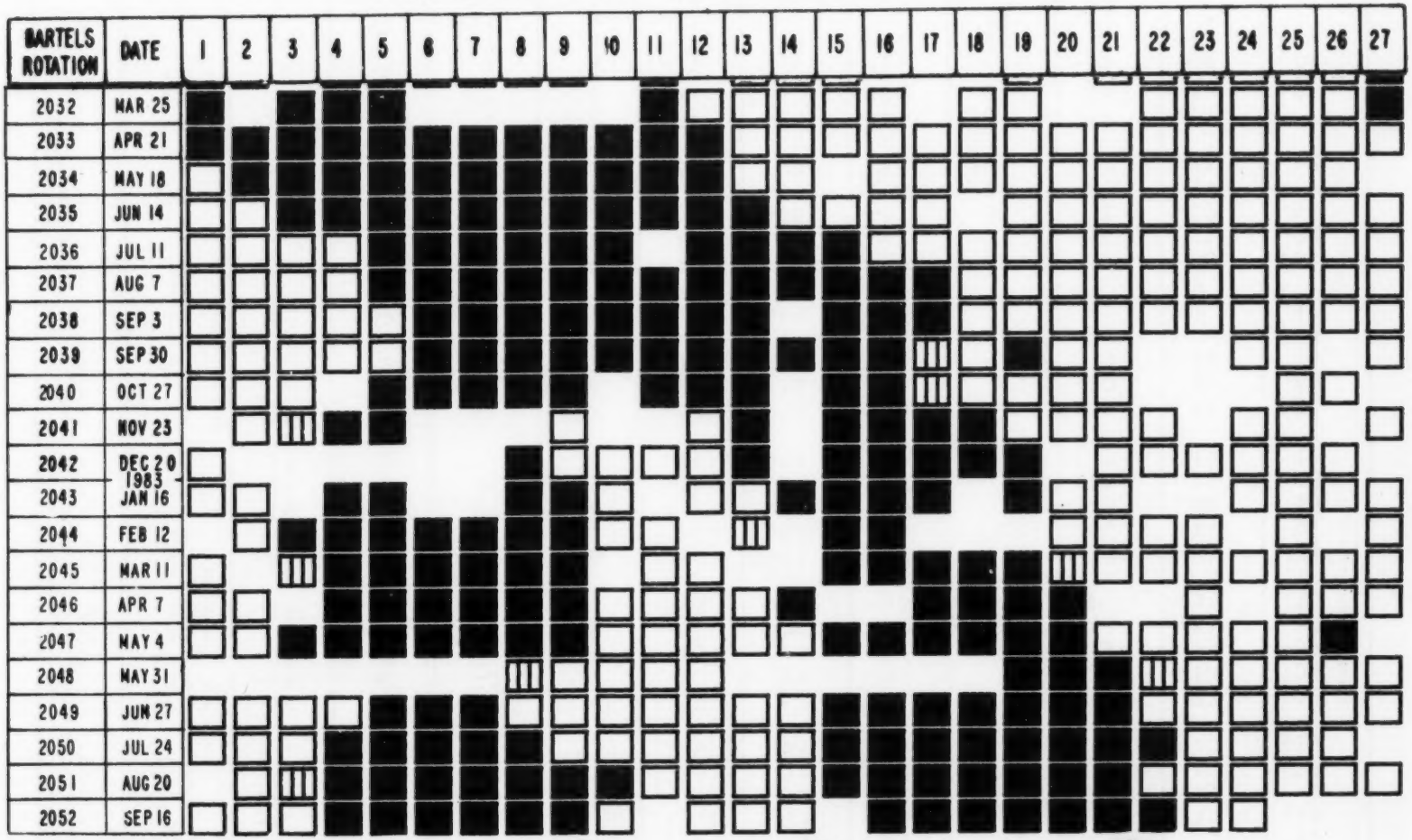
[ ] = definitely towards the sun [ ] = definitely away from the sun

T = towards the sun A = away from the sun * = effect doubtful or not discernible - = missing data

The table shows daily inferences of the polarity of the interplanetary magnetic field. The first half of the day is based principally on magnetograms produced by the magnetometer at the Vostok Antarctic Station of the USSR. The magnetometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

netometer of the U.S. Air Weather Service now operated at Thule by the Danish Meteorological Institute is used for the second half of the day. The Thule magnetometer ceased operating in August 1981.

STANFORD MEAN SOLAR MAGNETIC FIELD



POLARITY OF THE MEAN SOLAR MAGNETIC FIELD: □ = FIELD >2μT, ▥ = -2μT ≤FIELD ≤2μT, ■ = FIELD <-2μT

No box visible indicates no data available for that day.

NOTE: Data are taken daily at 2000 UT. Dates given are not Bartels Rotation dates. These earlier dates correspond to the occurrence of phenomena on the Sun that affect the Earth during the given Bartels Rotation.

STANFORD MEAN SOLAR MAGNETIC FIELD (MICROTESLA)

day	1982 Oct.	Nov.	Dec.	1983 Jan.	Feb.	March	April	May	June	July	Aug.	Sept.
01	22	-31	42	-9	-81	.	25	69	.	-23	9	41
02	53	-15	.	.	.	.	38	65	.	-50	16	35
03	37	-18	.	-89	-8	11	52	52	.	-28	3	-3
04	18	-38	10	-81	15	33	61	35	.	15	13	-59
05	-6	.	-42	-73	45	38	63	12	.	44	20	-99
06	-41	-63	.	-22	.	51	50	-3	.	51	22	-109
07	-54	-61	-90	-2	.	.	29	-15	0	39	-12	-109
08	-76	-68	-64	.	54	65	21	-43	12	17	-49	-89
09	-90	.	-29	53	84	.	.	-51	30	33	-81	-42
10	-93	-54	-20	46	93	48	-15	-45	45	27	-91	10
11	-96	-21	26	37	69	30	-44	-27	28	-4	-83	33
12	-100	1	29	53	.	.	-48	-3	.	-60	-73	52
13	-70	19	43	84	16	2	-43	10	.	-108	-60	60
14	-35	34	28	84	-19	-25	-29	27	.	-120	-10	58
15	-7	37	.	.	-22	-44	-11	31	.	-107	19	42
16	-1	52	8	39	-104	-62	9	10	.	-89	56	29
17	4	.	57	10	-102	-27	16	5	.	-20	14	20
18	-43	.	.	.	-67	-19	13	-9	-91	7	78	5
19	55	.	64	-87	-37	-5	15	-69	-56	27	.	-18
20	33	22	32	-119	-7	.	-11	-87	-28	41	.	-37
21	.	33	.	.	24	19	.	-96	-1	97	8	-63
22	.	.	.	.	27	15	.	-47	23	96	1	-66
23	17	.	.	-25	.	.	-66	-11	53	82	-17	-54
24	45	12	.	-3	-1	.	-59	6	72	25	-34	-17
25	.	-1	.	31	.	-23	-34	36	101	9	-76	12
26	54	-31	.	.	-49	-34	-15	64	67	11	-78	.
27	55	-58	-31	31	-66	-42	.	101	23	-4	-36	52
28	34	.	6	3	.	-17	.	117	27	-35	-28	71
29	20	.	42	-14		-20	36	-12	33	-37	-12	54
30	.	.	59	-51		1	.	.	26	-39	7	.
31	-11		35	-91		18		.		-21	28	

DOT SYMBOL INDICATES NO DATA AVAILABLE FOR THE DAY.

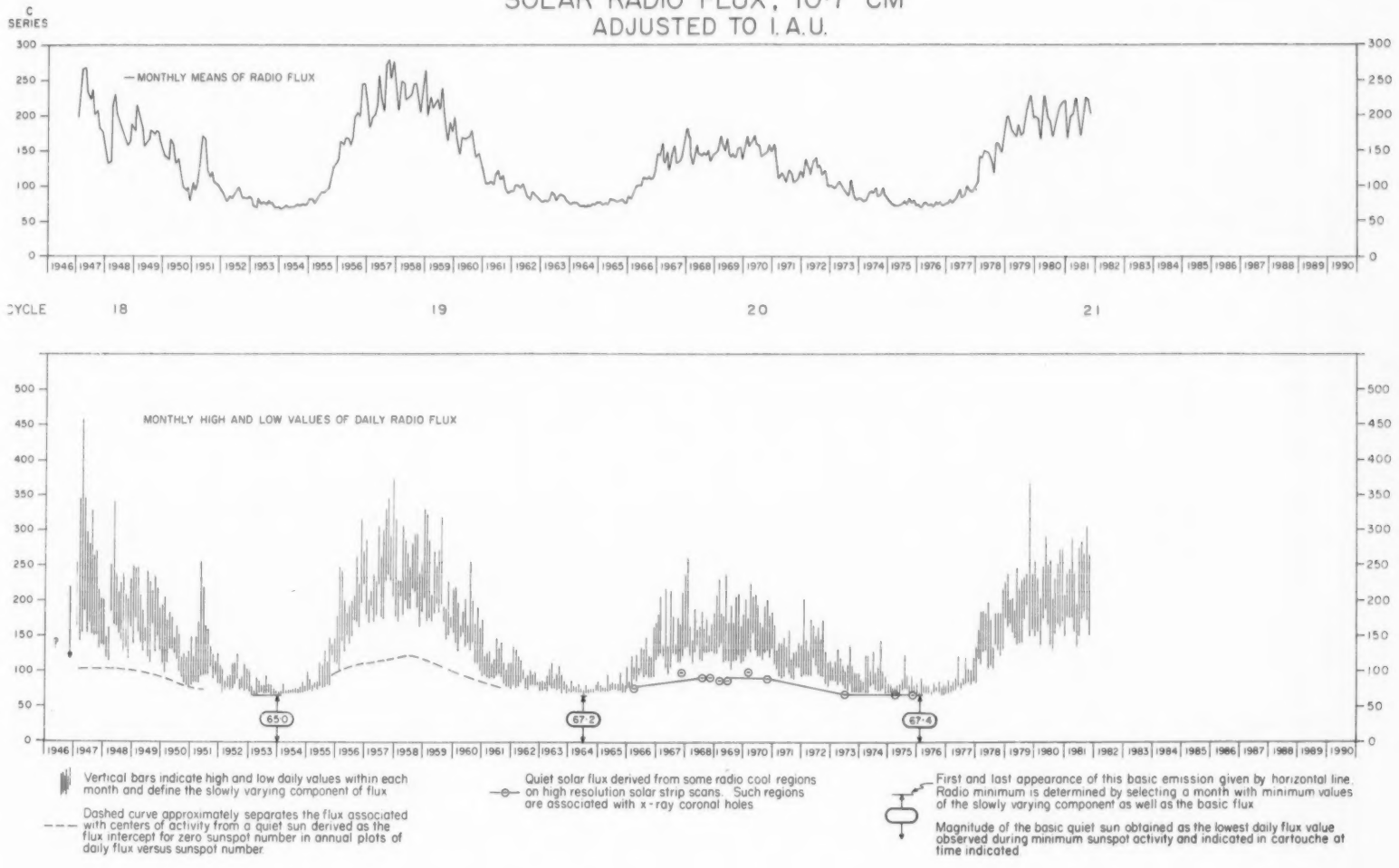
BOULDER GEOMAGNETIC SUBSTORM LOG

September 1983

DATE	ONSET TIME	DIR	COMMENTS
09/01			Field intermittently unsettled.
	0155	East	
	0320	East	
	0405	West	
	1445	West	
09/02			Field slightly unsettled.
09/03			Field slightly unsettled.
	0525	West	Weak substorm.
09/04			Quiet day.
09/05			Quiet day.
09/06			Field slightly unsettled.
	0230		Localized substorm at NAQ*.
09/07			Field intermittently unsettled.
	1130	West	
	1340	West	Several minor injections with recovery near 1600 UT.
09/08			Field intermittently unsettled.
	0735	West	
	0950	West	Initial onset at College, several injections with recovery near 1200 UT.
09/09			Field unsettled all day with no distinctive substorm activity.
09/10			Field unsettled all day.
	0210		Weak localized substorm at NAQ.
	0900	West	Weak substorm.
	1505	West	Slow onset.
09/11			Field intermittently unsettled.
	1120	West	Weak substorm, several minor injections.
09/12			Field intermittently unsettled.
	0255	East	
	0340	East	
	0540	East	
	0725	West	
	1005	West	Numerous injections with recovery near 1520 UT.
09/13			Field intermittently unsettled.
	0210	East	Weak substorm.
	0640	West	Weak substorm.
	0825	West	Weak substorm.
	1140		Localized substorm at College.
09/14			Field intermittently unsettled.
	0750	West	Weak substorm.
	1620		Localized substorm at Inuvik.
09/15			Field unsettled all day.
	0800		Localized substorm at Lynn Lake.
	1700	West	Strong substorm response at College and Anchorage.
09/16			Field intermittently active.
	0700	West	
	1105	West	Strong substorm response at Anchorage.
	1535	West	Strong substorm response at College and Anchorage.
09/17			Field intermittently active.
09/17	0510	West	
	0715	West	Initial substorm onset at College, strong response at College.
	0810	West	Added injection to existing substorm at College.
09/18			Field intermittently unsettled.
	0745	West	
09/19			Field active all day.
	0120		Localized substorm at NAQ.
	0305	East	Initial onset at Lynn Lake
	0755	West	
	0945		Initial onset, several moderate to strong injections with recovery near 1430 UT. Response confined at College to Talkeetna to Anchorage.
	1550	West	
09/20			Field intermittently active.
	0350	East	
	0755	West	Weak substorm.
	0855	West	
	1125	West	
09/21			Field unsettled all day.
	0205		Localized substorm at NAQ.
	0725	West	
	1155	West	
09/22			Field intermittently unsettled.
	0540	East	Weak substorm.
	1020	West	Initial onset at College.
09/23			Field intermittently unsettled with no significant substorm activity.
09/24	1150	West	Moderate substorm, numerous minor injections with recovery near 1720 UT.
09/25			Field unsettled all day.
	0120		Localized substorm at NAQ.
	0705	West	
	1335	West	Numerous minor injections with recovery near 1800 UT.
09/26			Field intermittently active.
	0145	East	
	0520	East	
	0630	Center	
	0745		Localized substorm vicinity College.
	0820	West	Numerous minor injections with recovery near 1230 UT.
	1235		Localized substorm College to Anchorage.
09/27			Field intermittently unsettled.
	0055	East	
	1120	West	
09/28			Field intermittently unsettled.
	0045	East	Several injections with recovery near 0300 UT.
	1305	West	Weak substorm.
	1425	West	Weak substorm.
09/29			Field intermittently unsettled through 1200 UT and quiet balance of day.
	0220	East	
	1020	West	
09/30			Quiet day.

*Note: Narsarssuaq became operational on 19 April 1983. For convenience, it will be identified by the call letters NAQ.

SOLAR RADIO FLUX, 10·7 CM
ADJUSTED TO I.A.U.


C SERIES
— MONTHLY MEANS OF RADIO FLUX
CYCLE 18 19 20 21
MONTHLY HIGH AND LOW VALUES OF DAILY RADIO FLUX
650
67·2
67·4
Vertical bars indicate high and low daily values within each month and define the slowly varying component of flux
Dashed curve approximately separates the flux associated with centers of activity from a quiet sun derived as the flux intercept for zero sunspot number in annual plots of daily flux versus sunspot number
Quiet solar flux derived from some radio cool regions on high resolution solar strip scans. Such regions are associated with x-ray coronal holes
First and last appearance of this basic emission given by horizontal line. Radio minimum is determined by selecting a month with minimum values of the slowly varying component as well as the basic flux
Magnitude of the basic quiet sun obtained as the lowest daily flux value observed during minimum sunspot activity and indicated in cartouche at time indicated

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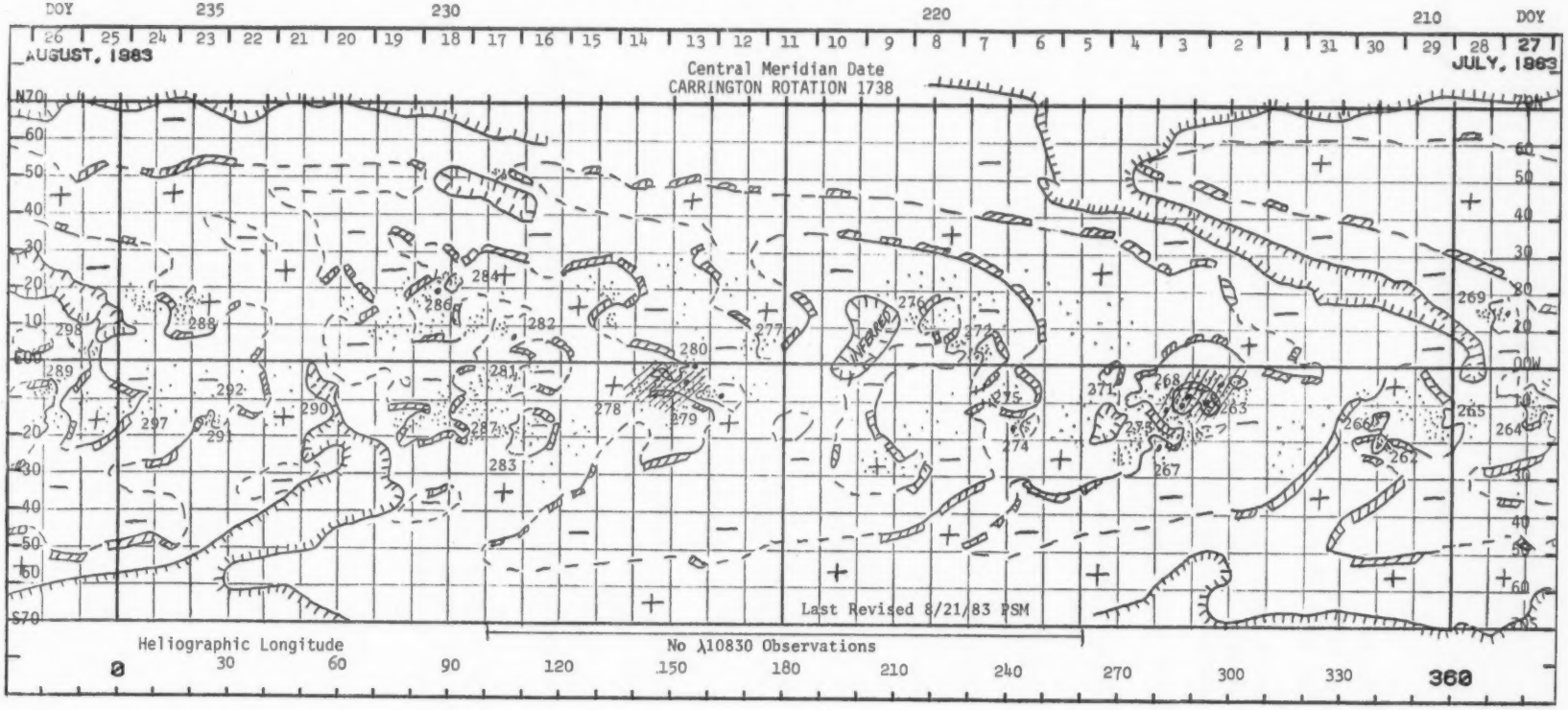
Hα SYNOPTIC CHART

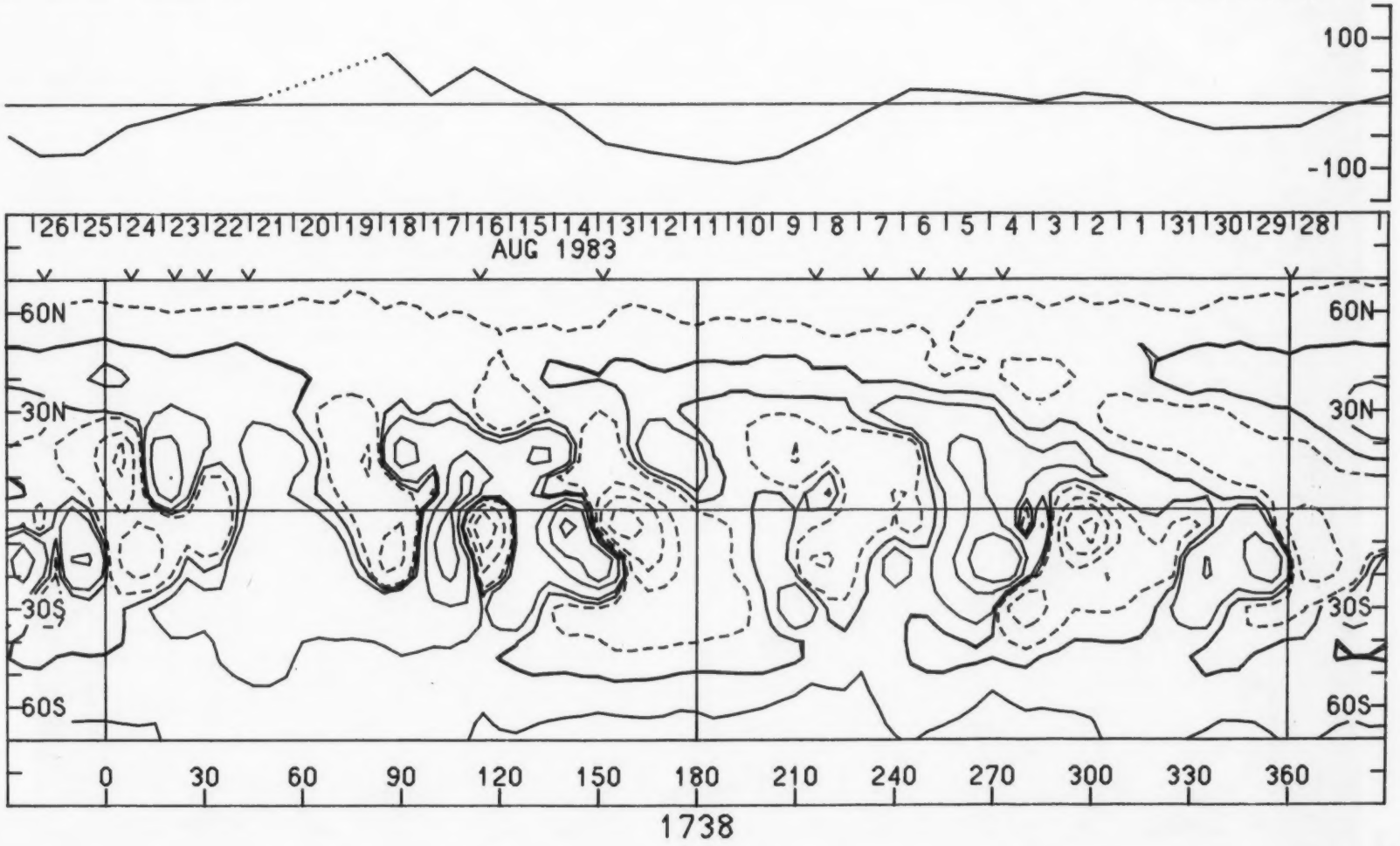
CARRINGTON ROTATION 1738 (PRELIMINARY)



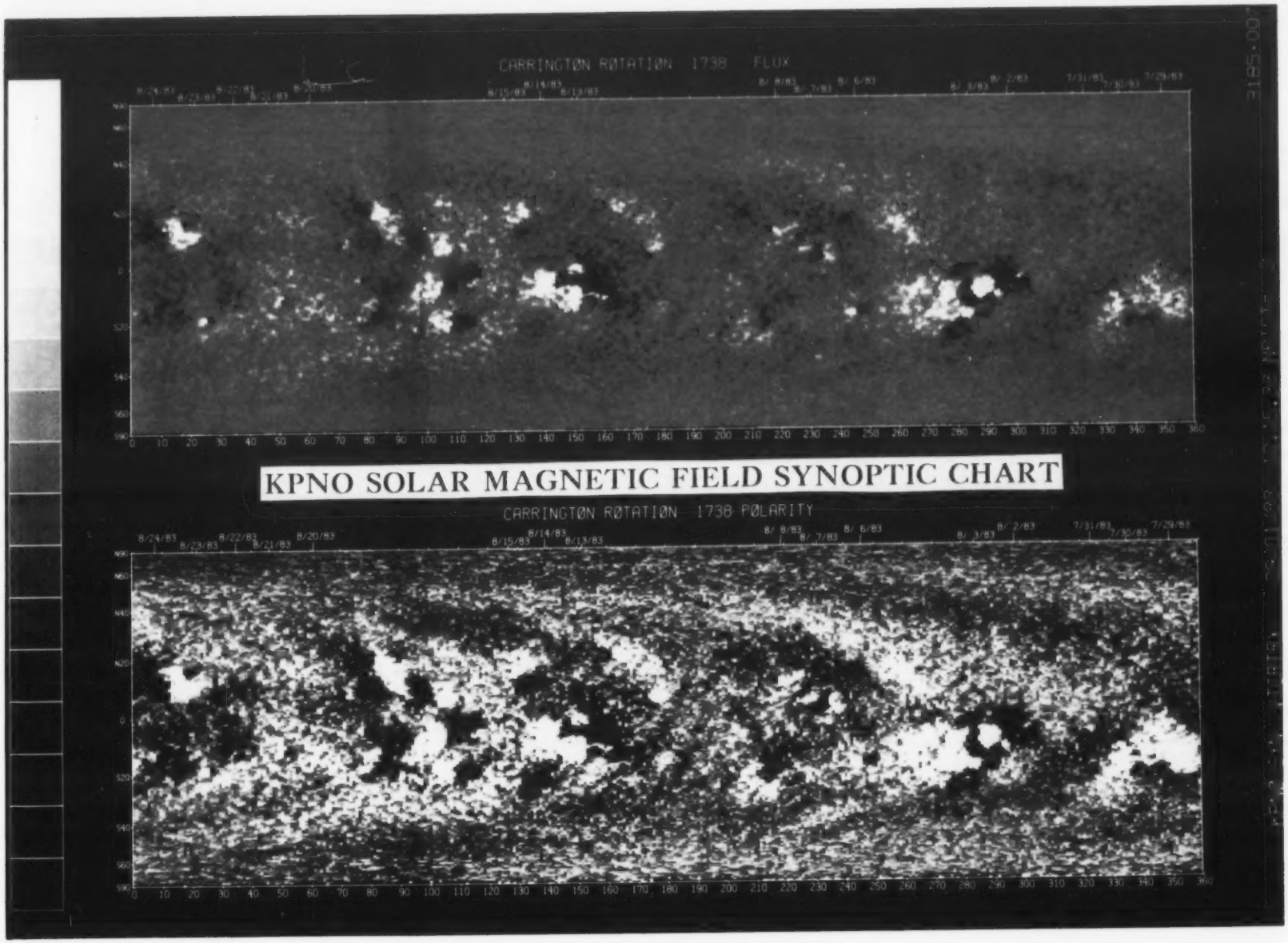
SOLAR MAGNETIC FIELD SYNOPTIC CHART
CARRINGTON ROTATION 1738

Stanford Solar Observatory

0,±100,200,500... μT



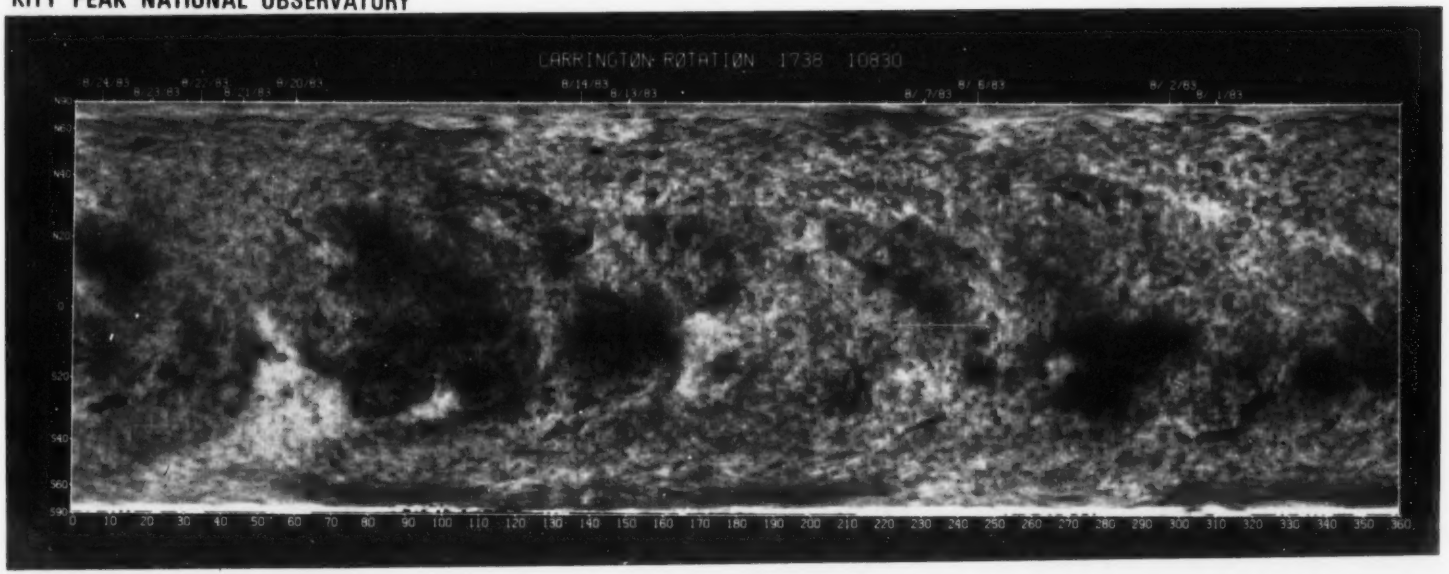
33
Aug 83



KPNO SOLAR MAGNETIC FIELD SYNOPTIC CHART

HELIUM 10830Å SYNOPTIC MAPS
CARRINGTON ROTATION 1738

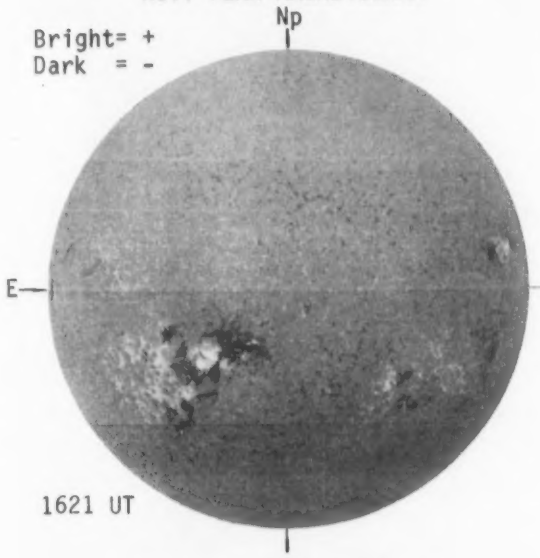
KITT PEAK NATIONAL OBSERVATORY



A U G U S T 01, 1 9 8 3 (P= 10.60, B_0= 5.76, L_0= 320.38)

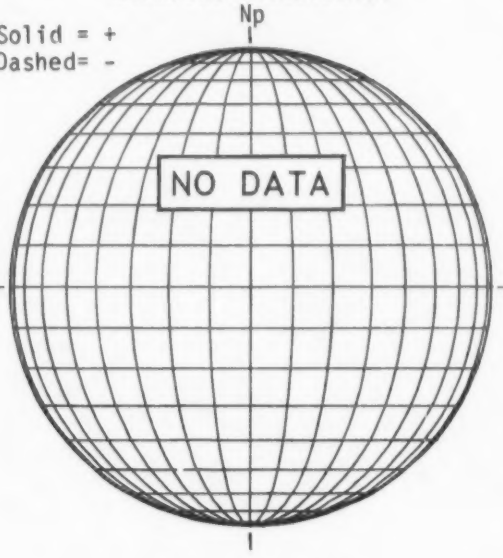
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

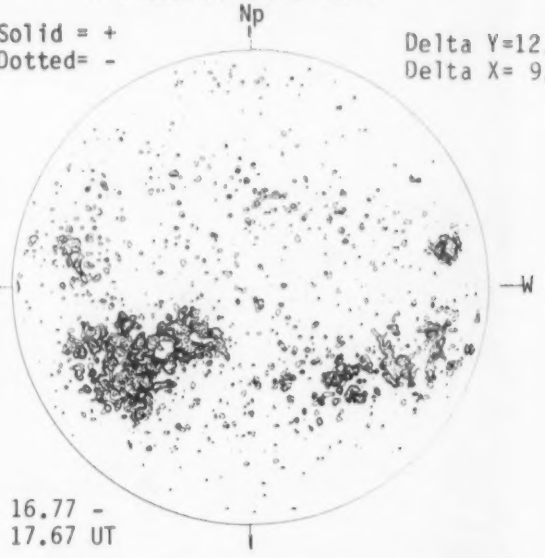
Solid = +
Dashed= -



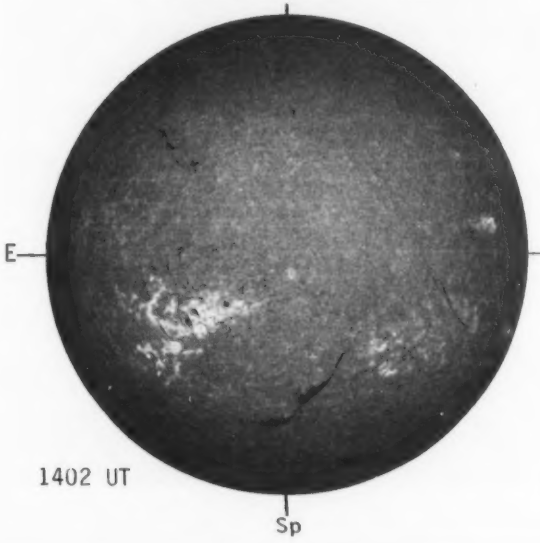
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

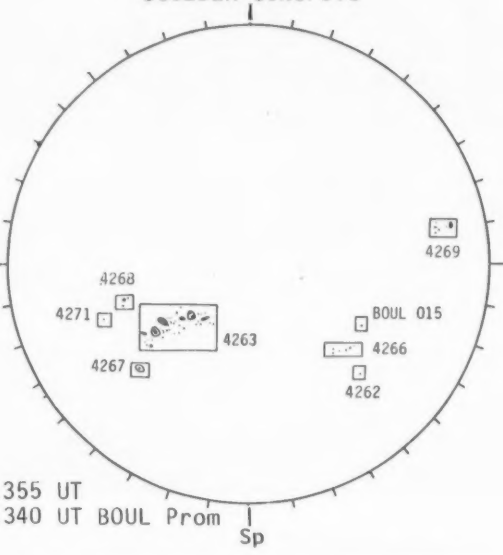
Delta Y=12.7
Delta X= 9.6



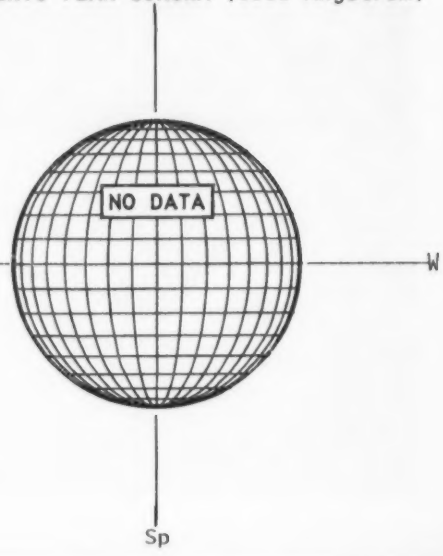
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 02, 1 9 8 3 (P= 11.00, B_0= 5.83, L_0= 307.16)

Sp

1340 UT BOUL Prom

Sp

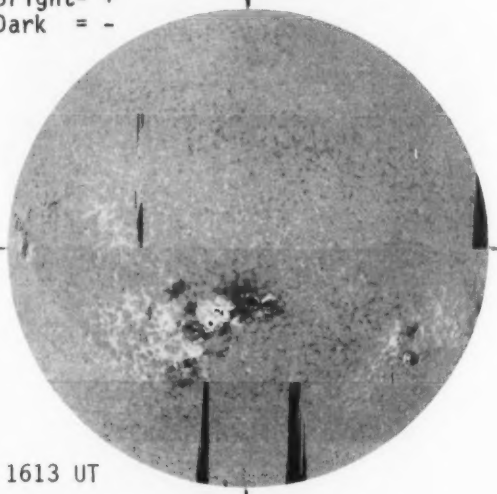
Sp

A U G U S T 02, 1 9 8 3 (P= 11.00, B_o= 5.83, L_o= 307.16)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

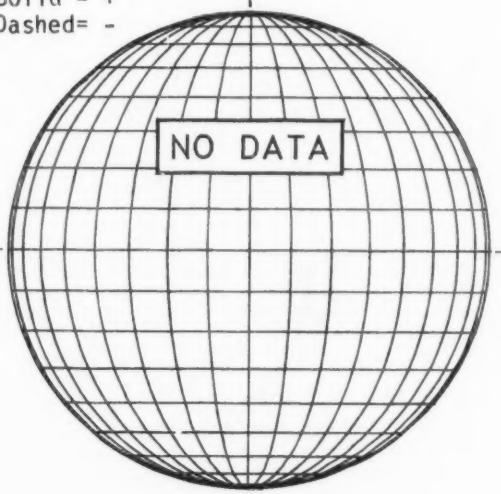
1613 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



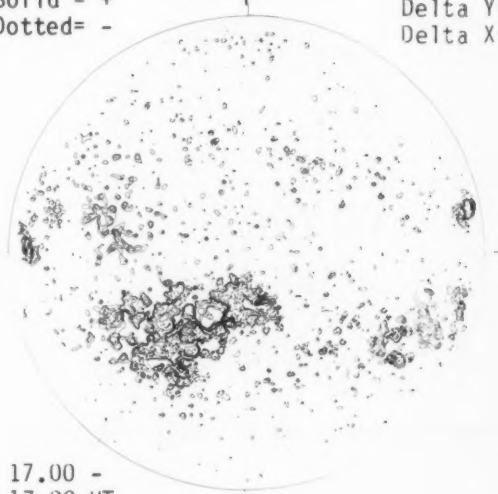
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

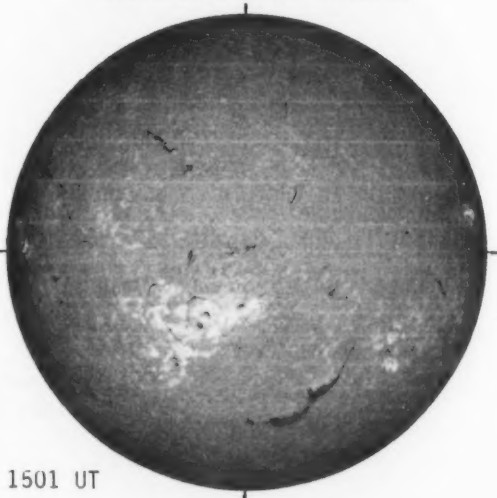


W

17.00 -
17.88 UT

Sp

SACRAMENTO PEAK H-ALPHA

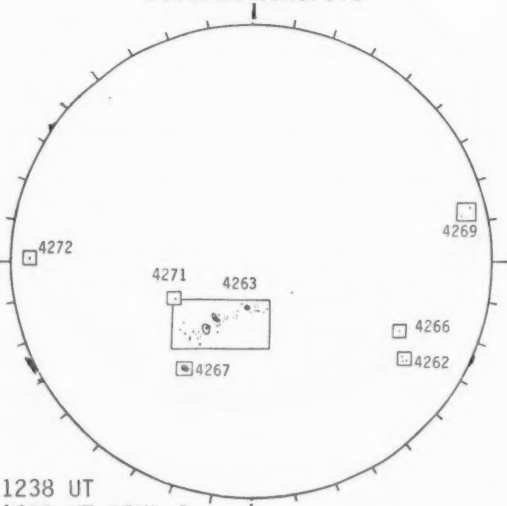


E

1501 UT

Sp

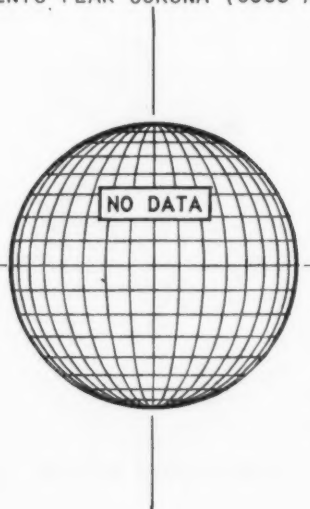
BOULDER SUNSPOTS



1238 UT
1400 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



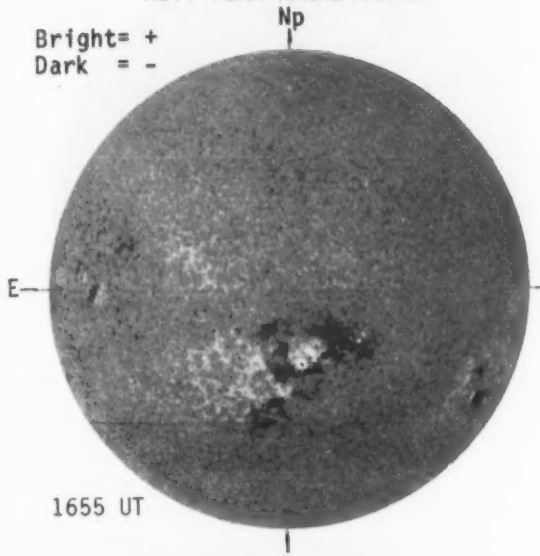
W

Sp

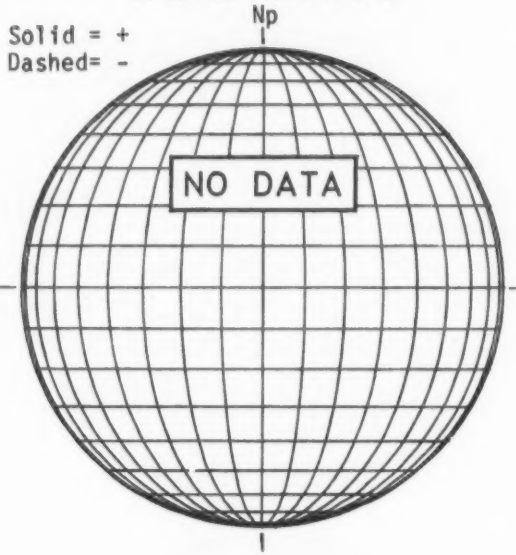
37
Aug 83

A U G U S T 03, 1 9 8 3 (P= 11.39, B_o= 5.90, L_o= 293.93)

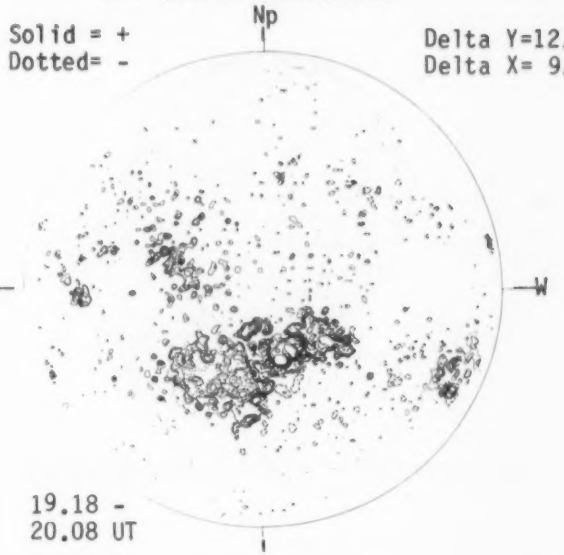
KITT PEAK MAGNETOGRAM



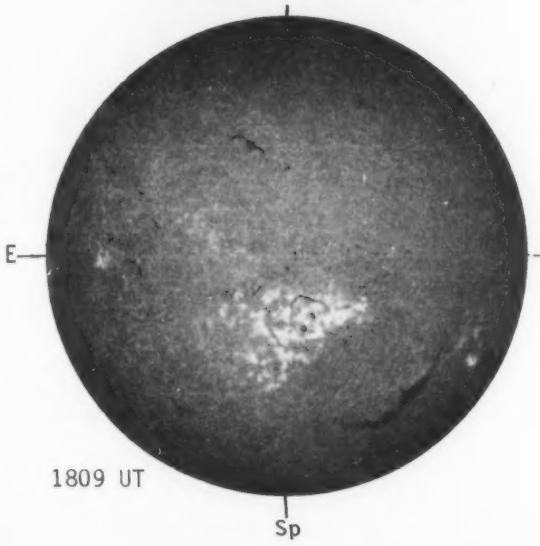
STANFORD MAGNETOGRAM



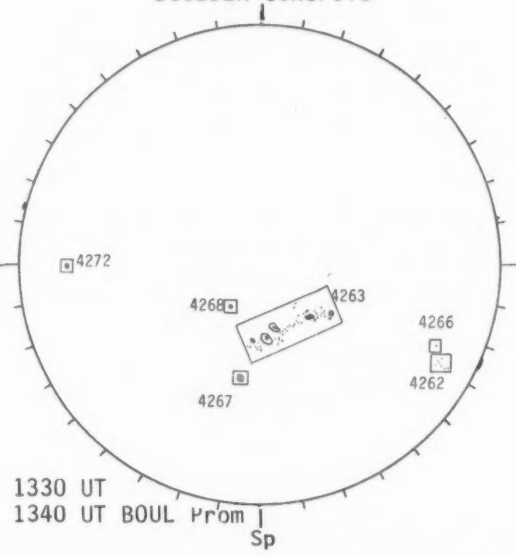
MT. WILSON MAGNETOGRAM



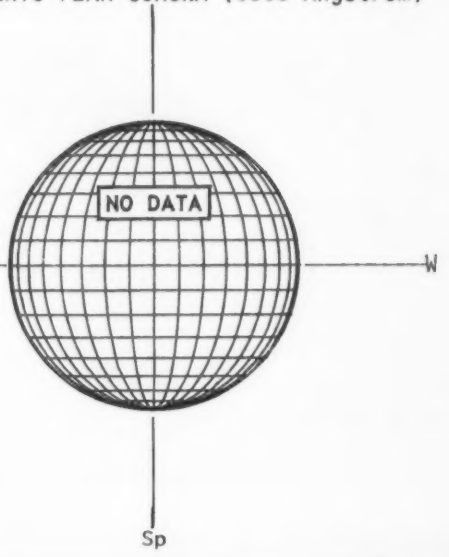
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 04, 1 9 8 3 (P= 11.78, B_o= 5.97, L_o= 280.71)

Sp Sp Sp

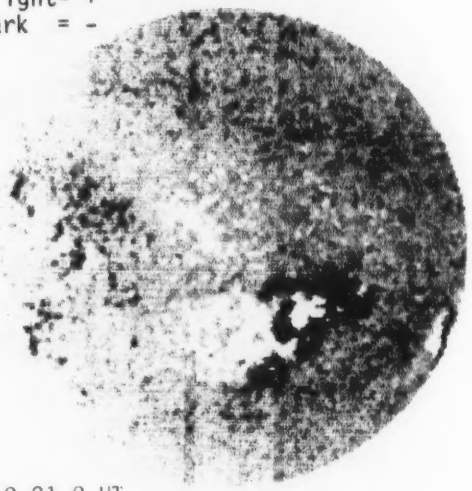
A U G U S T 04, 1 9 8 3 (P= 11.78, B_o= 5.97, L_o= 280.71)

MT. WILSON MAGNETOGRAM

Np

Bright= +
Dark = -

E-

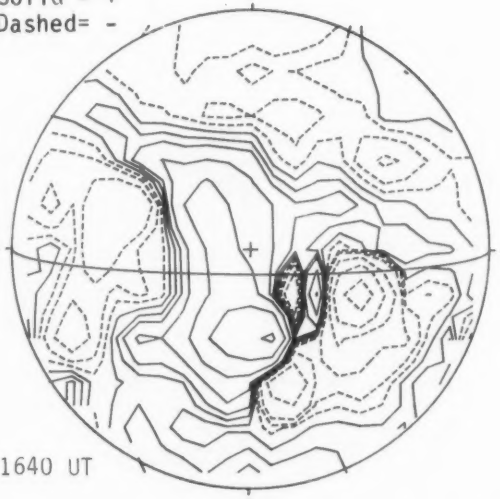


20.9-21.8 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



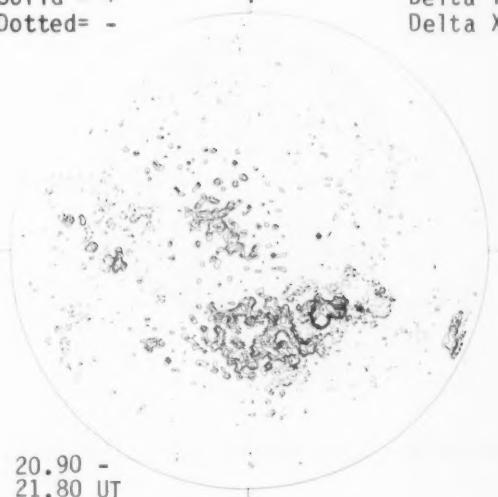
1640 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

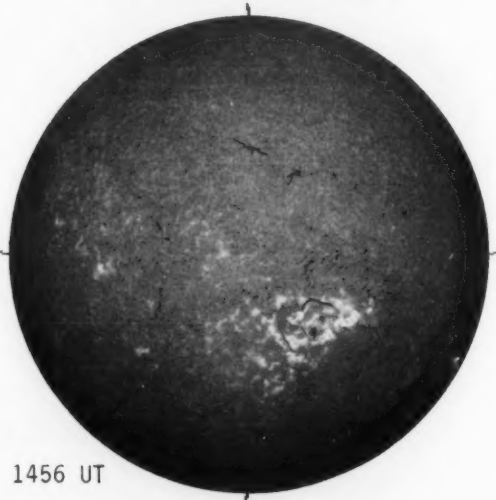
Delta Y=12.7
Delta X= 9.6



20.90 -
21.80 UT

SACRAMENTO PEAK H-ALPHA

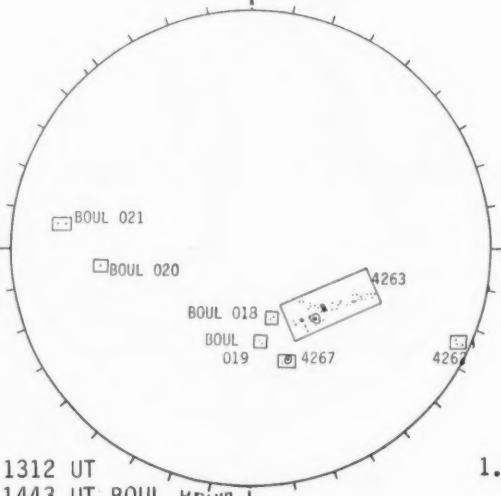
E-



1456 UT

Sp

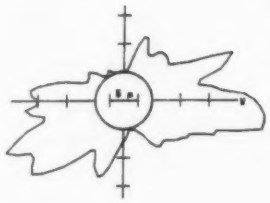
BOULDER SUNSPOTS



1312 UT
1443 UT BOUL From

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



-W

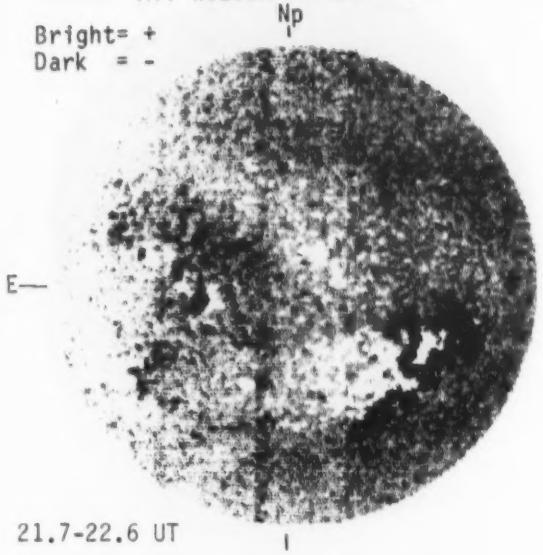
1.15 R_o 1601 UT

Sp

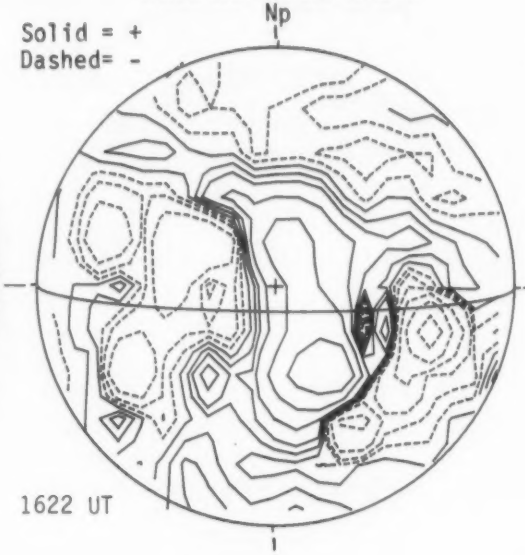
39
Aug 83

A U G U S T 05, 1 9 8 3 (P= 12.17, B_0= 6.04, L_0= 267.48)

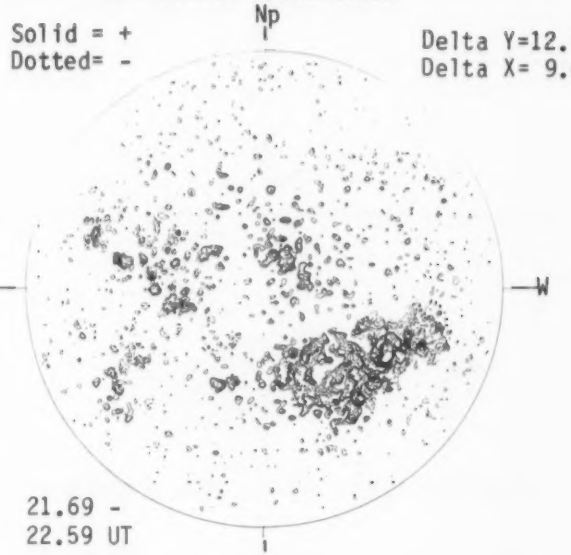
MT. WILSON MAGNETOGRAM



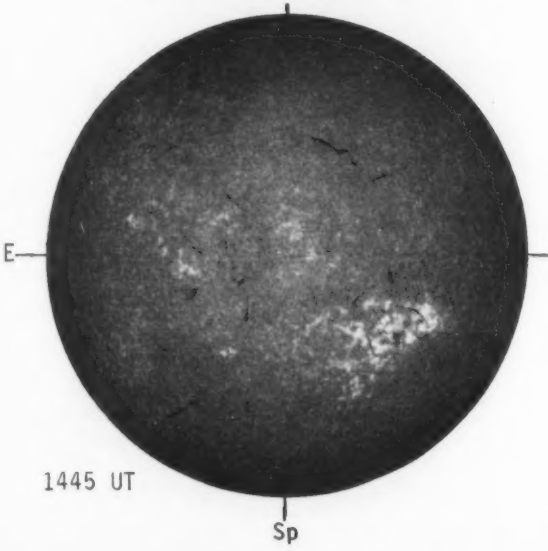
STANFORD MAGNETOGRAM



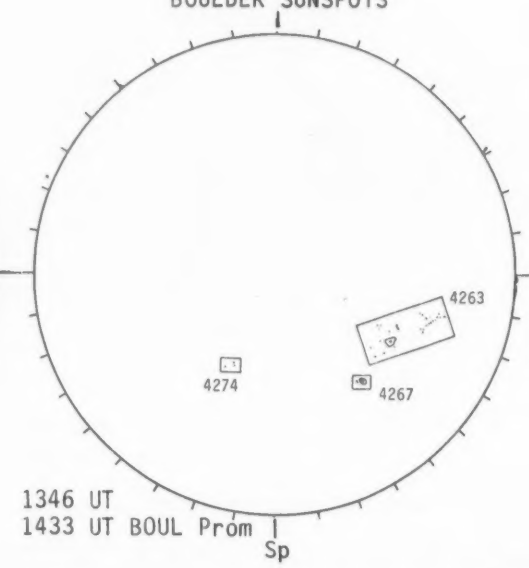
MT. WILSON MAGNETOGRAM



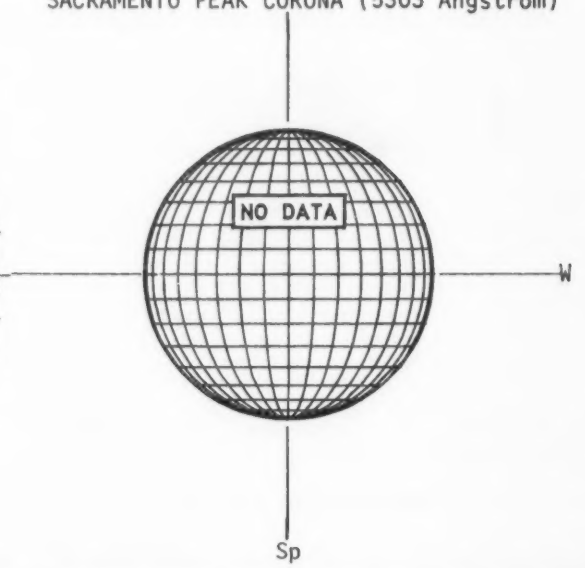
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

1433 UT BOUL Prom

Sp

Sp

A U G U S T 06, 1 9 8 3 (P= 12.55, B_o= 6.11, L_o= 254.26)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -

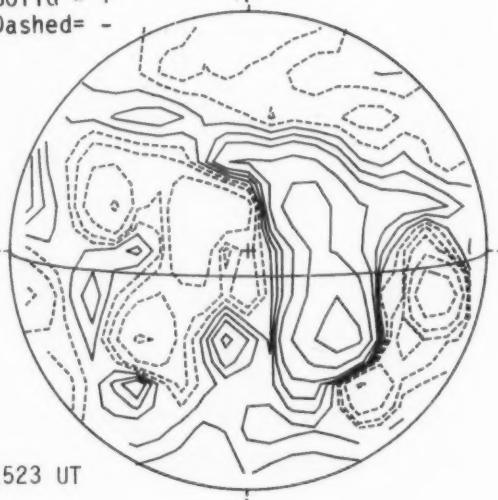
E

1417 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



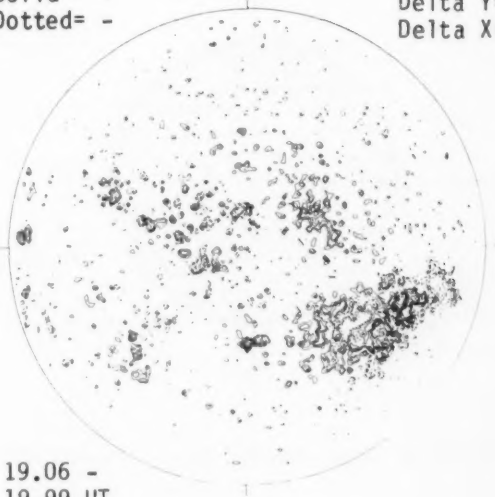
1523 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

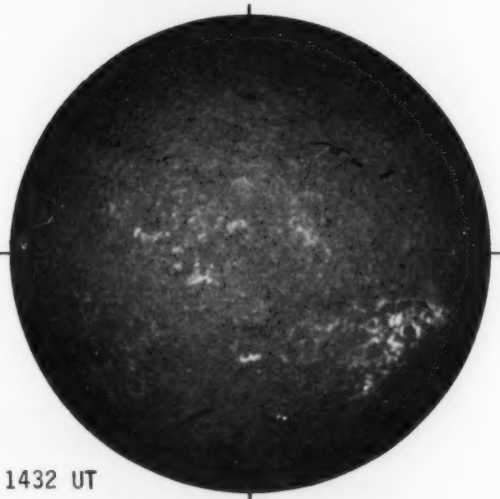
Delta Y=12.7
Delta X= 9.6



W

19.06 -
19.99 UT

SACRAMENTO PEAK H-ALPHA

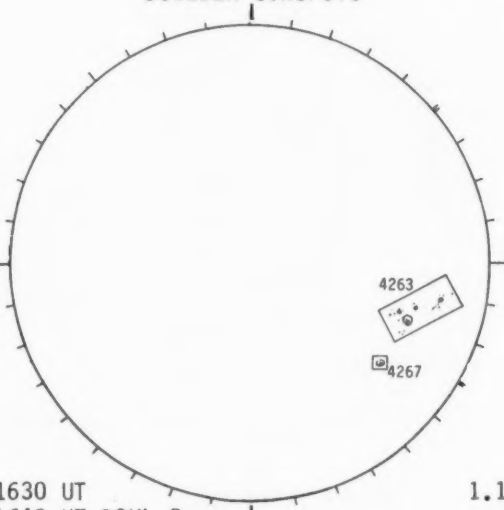


E

1432 UT

Sp

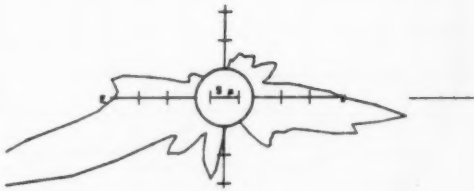
BOULDER SUNSPOTS



1630 UT
1640 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



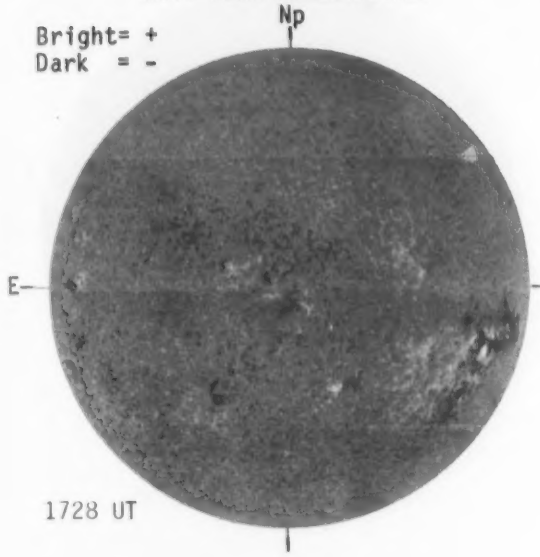
W

1.15 R_o 1452 UT

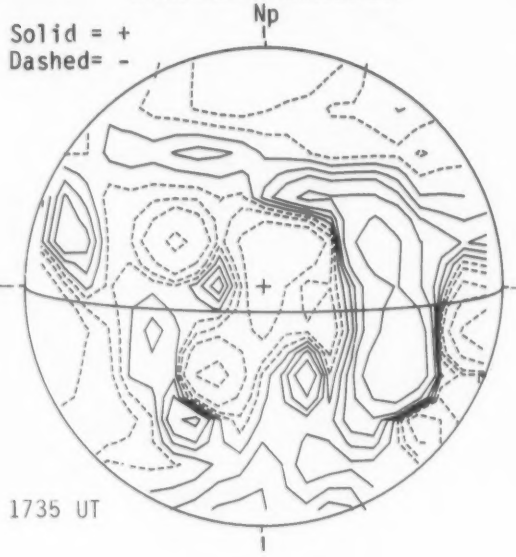
Sp

A U G U S T 07, 1 9 8 3 (P= 12.93, B_0= 6.17, L_0= 241.04)

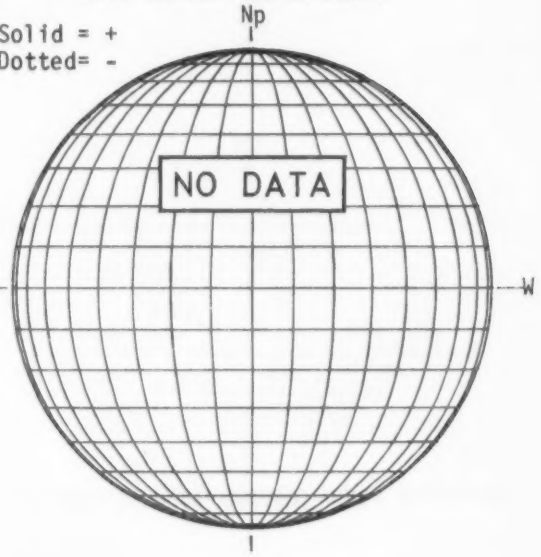
KITT PEAK MAGNETOGRAM



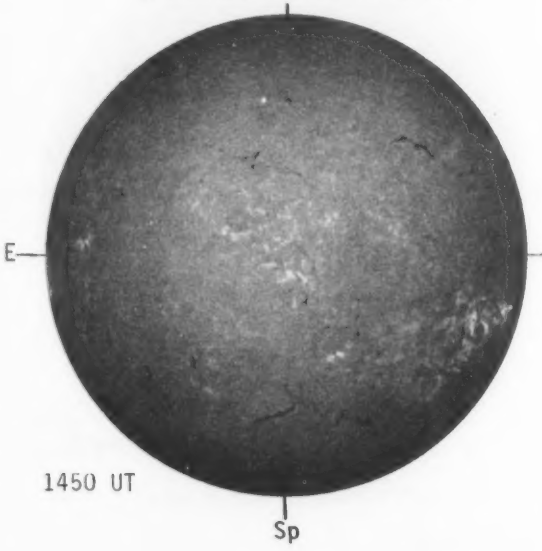
STANFORD MAGNETOGRAM



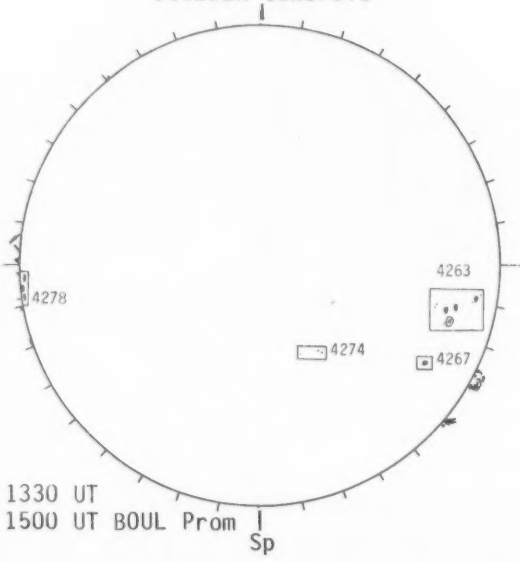
MT. WILSON MAGNETOGRAM



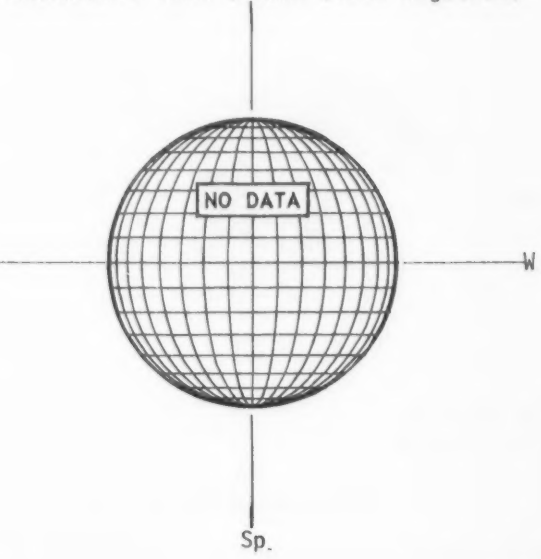
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 08, 1 9 8 3 (P= 13.31, B_0= 6.23, L_0= 227.81)

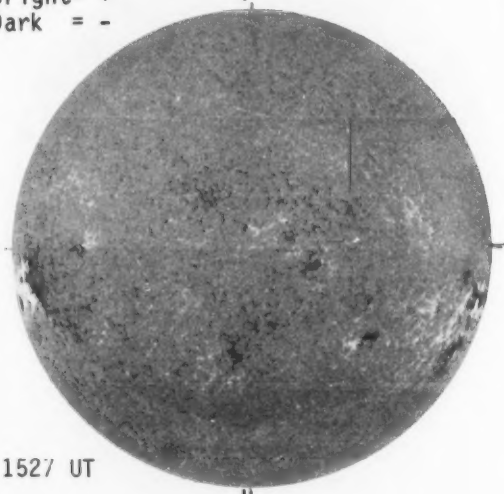
Sp Sp Sp

A U G U S T 08, 1 9 8 3 (P= 13.31, B_o= 6.23, L_o= 227.81)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



E

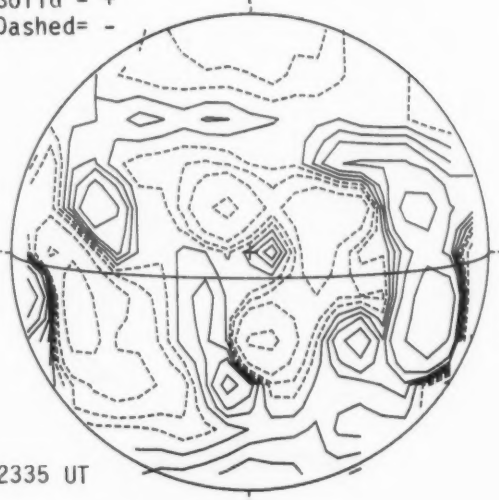
1527 UT

Sp

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



2335 UT

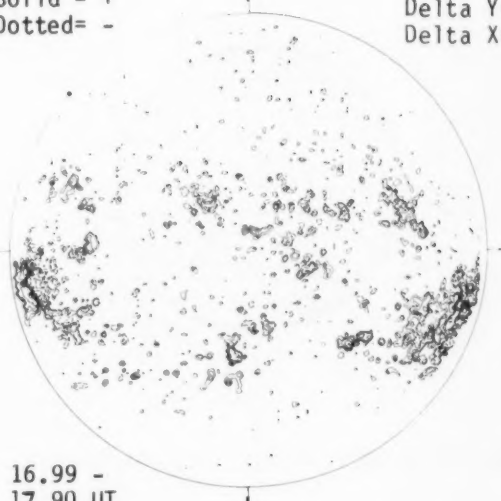
Sp

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

Delta Y=12.7
Delta X= 9.6

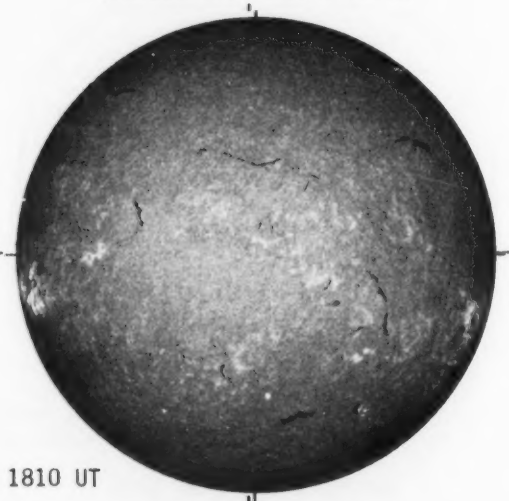


W

16.99 -
17.90 UT

Sp

SACRAMENTO PEAK H-ALPHA

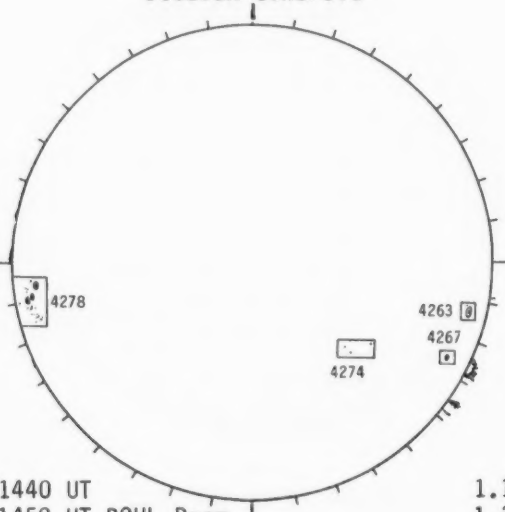


E

1810 UT

Sp

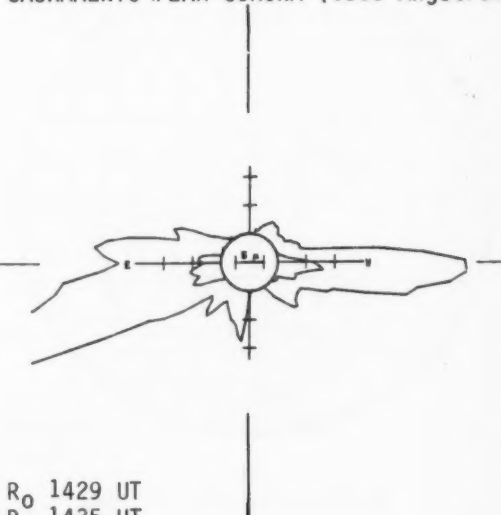
BOULDER SUNSPOTS



1440 UT
1450 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



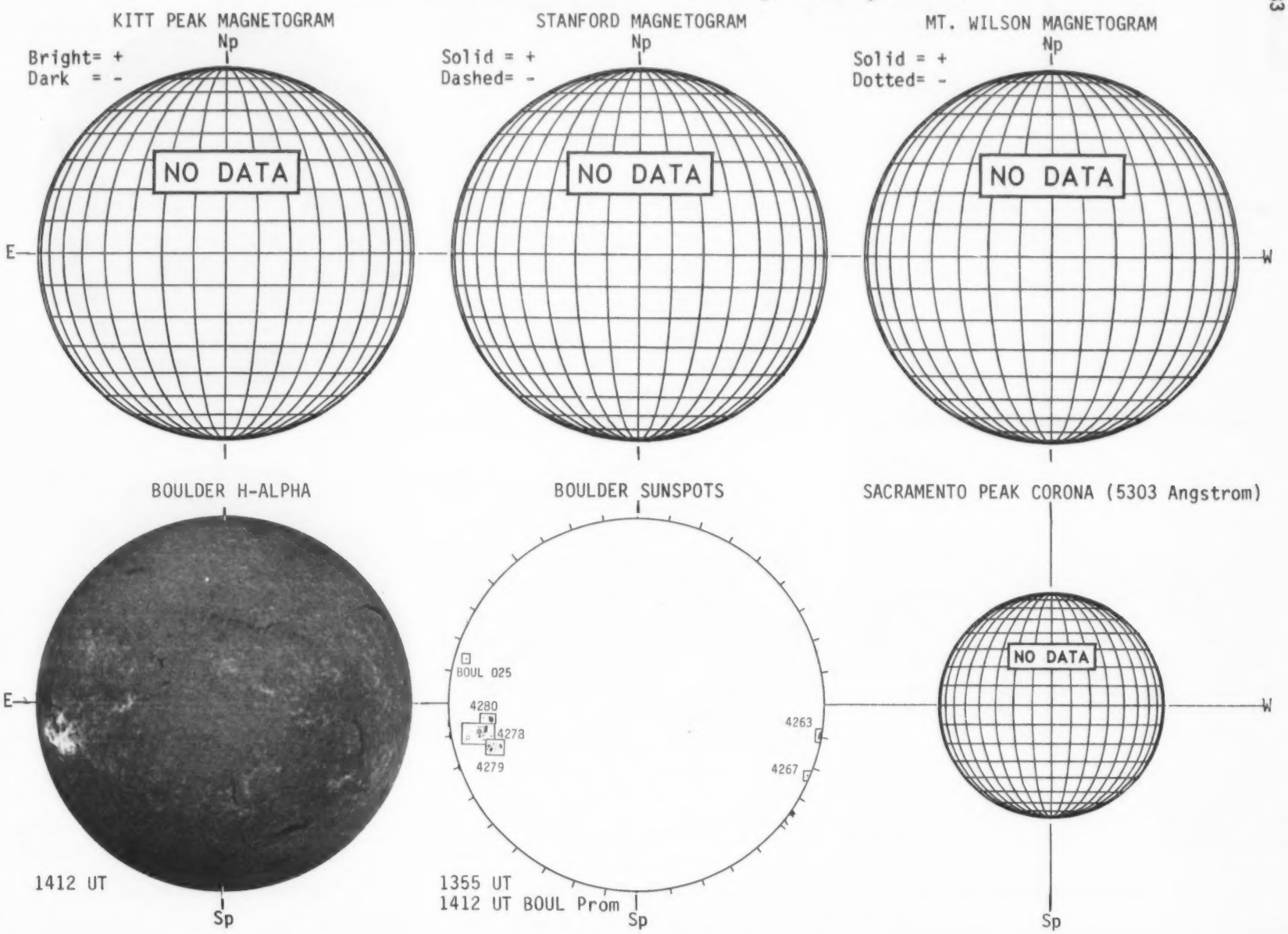
W

1.15 R_o 1429 UT
1.35 R_o 1435 UT

Sp

43
Aug 83

A U G U S T 09, 1 9 8 3 (P= 13.68, B_o= 6.30, L_o= 214.59)

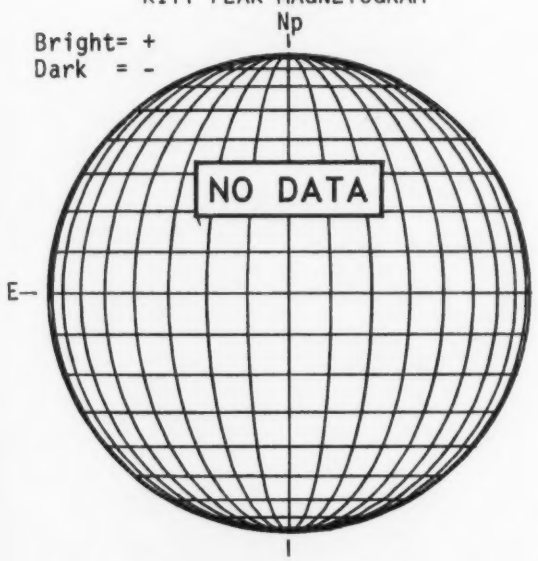


A U G U S T 10, 1 9 8 3 (P= 14.05, B = 6.35, L = 201.37)

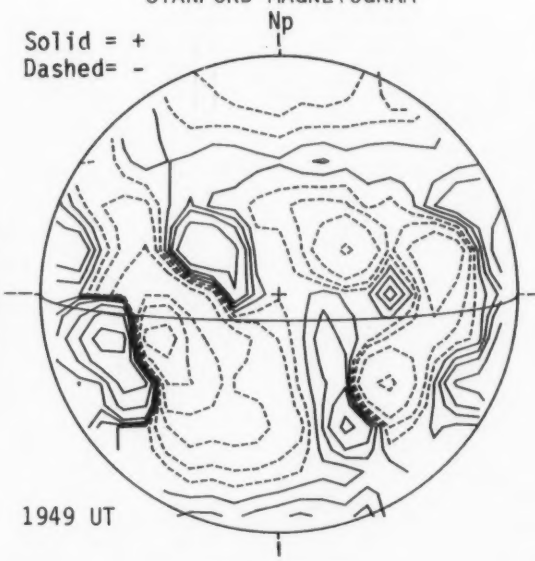
Sp Sp Sp

A U G U S T 10, 1 9 8 3 (P= 14.05, B_o= 6.35, L_o= 201.37)

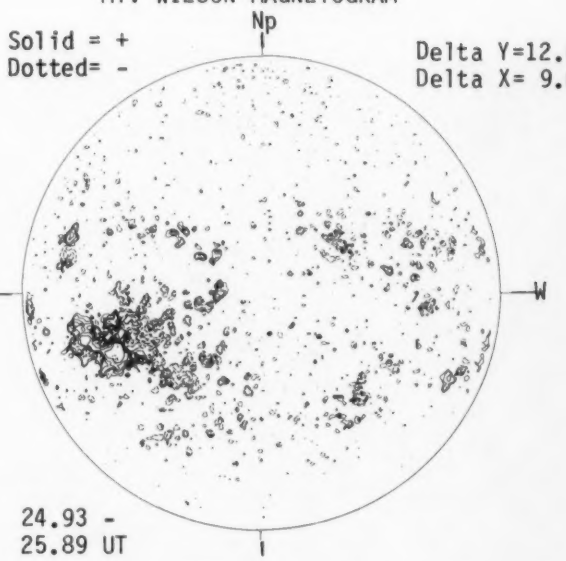
KITT PEAK MAGNETOGRAM



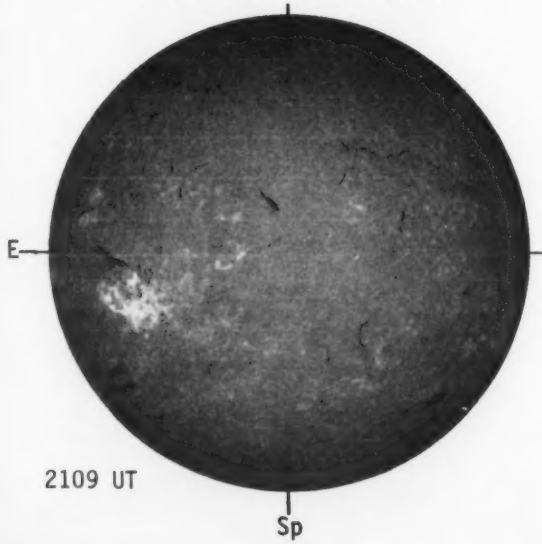
STANFORD MAGNETOGRAM



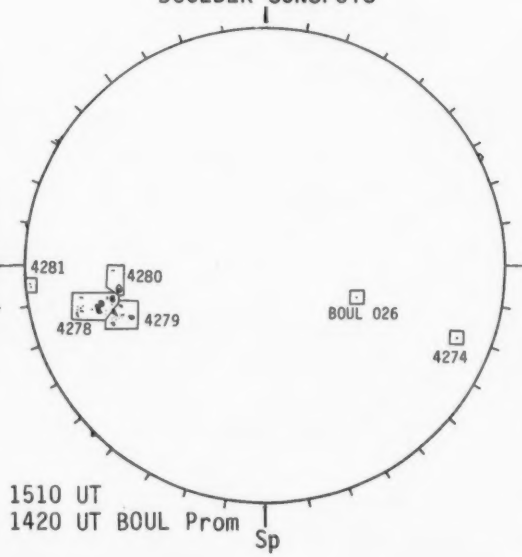
MT. WILSON MAGNETOGRAM



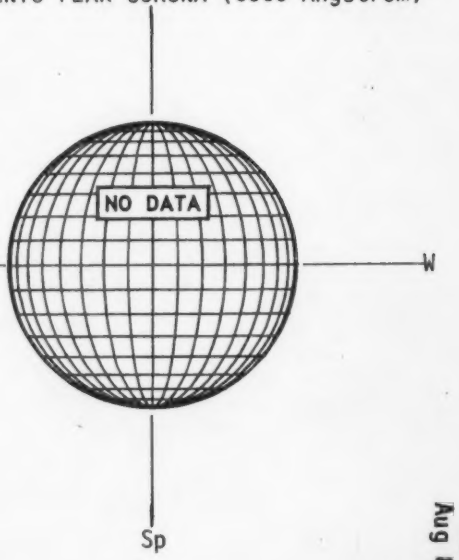
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



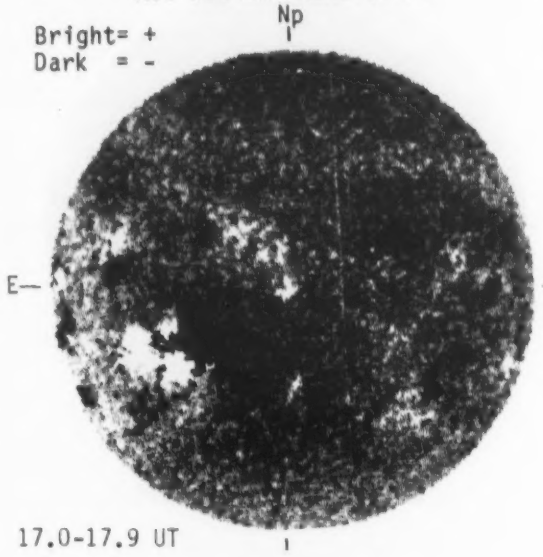
SACRAMENTO PEAK CORONA (5303 Angstrom)



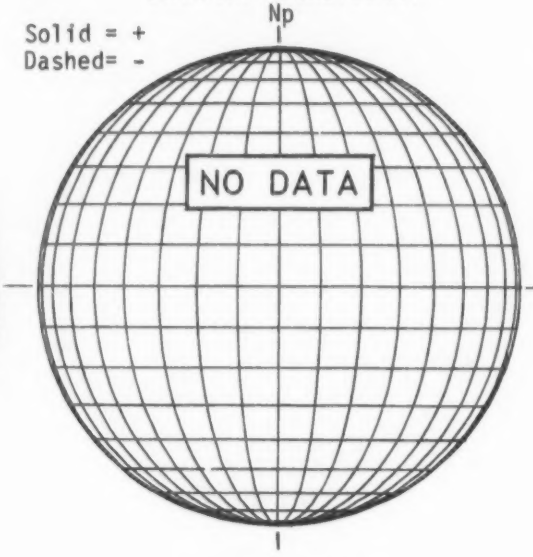
45
Aug 83

A U G U S T 11, 1 9 8 3 (P= 14.41, B_o= 6.41, L_o= 188.15)

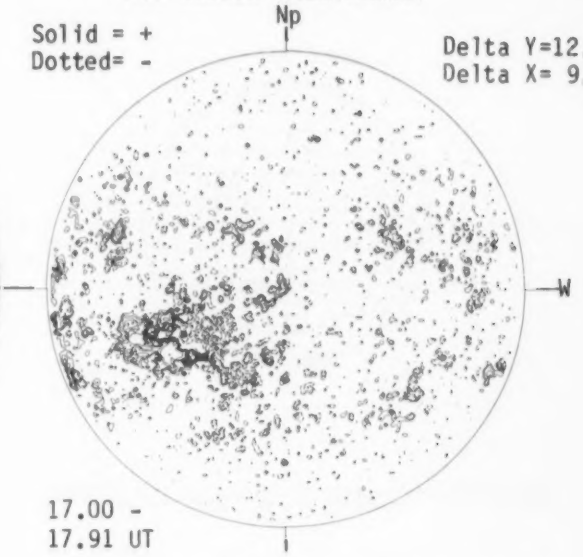
MT. WILSON MAGNETOGRAM



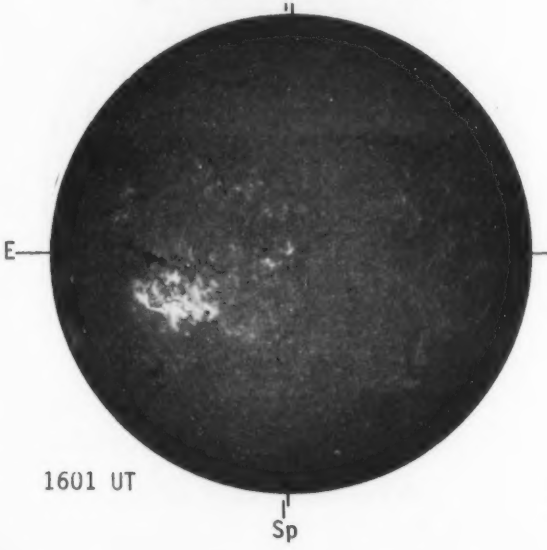
STANFORD MAGNETOGRAM



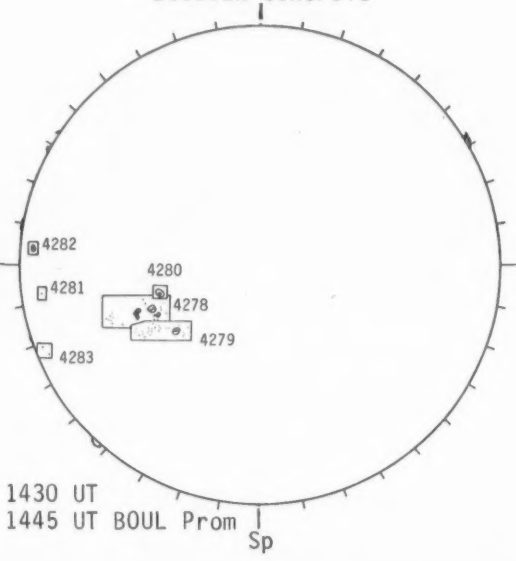
MT. WILSON MAGNETOGRAM



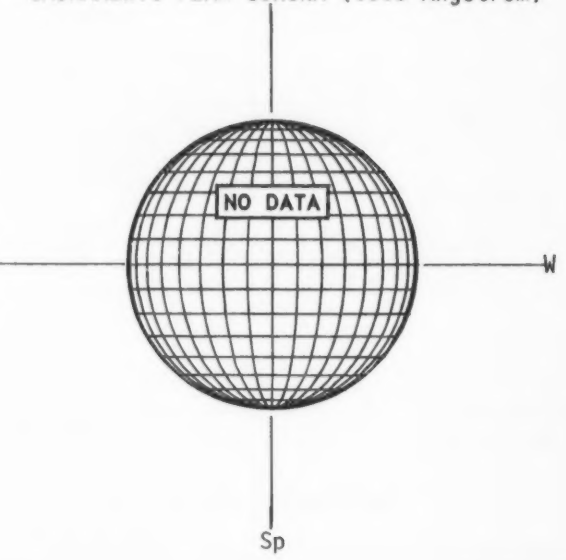
SACRAMENTO PEAK H-ALHPA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

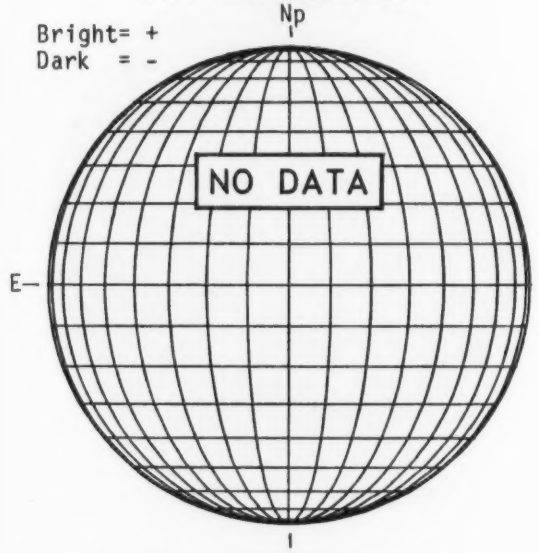


Sp Sp Sp

A U G U S T 12, 1 9 8 3 (P= 14.77, B_0= 6.47, L_0= 174.93)

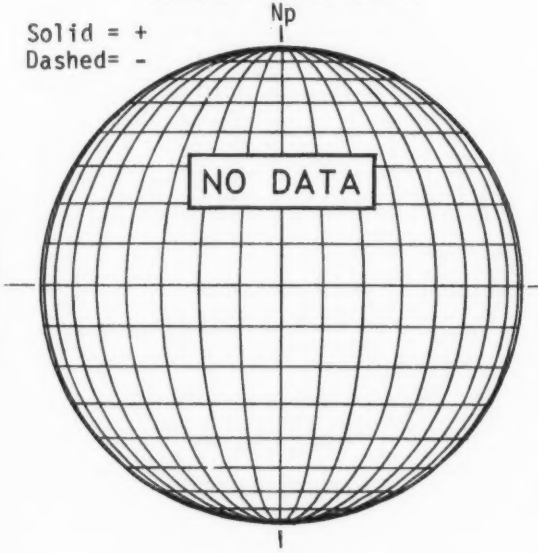
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



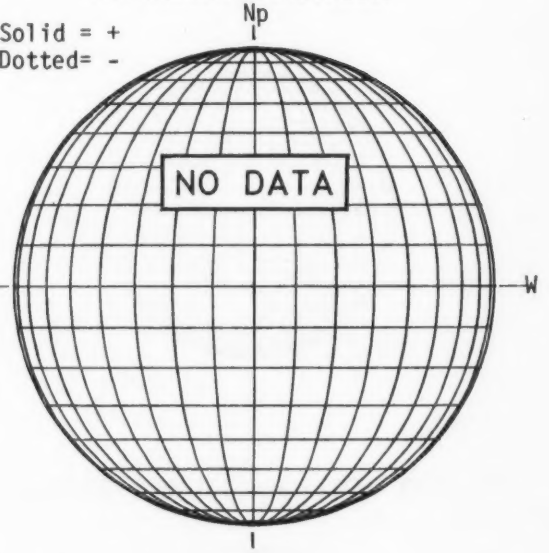
STANFORD MAGNETOGRAM

Solid = +
Dashed= -

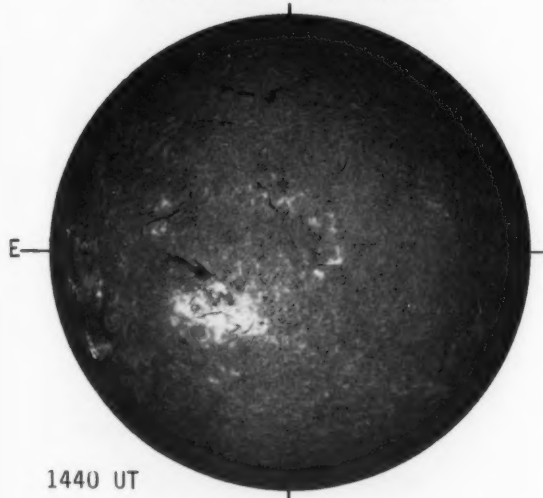


MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

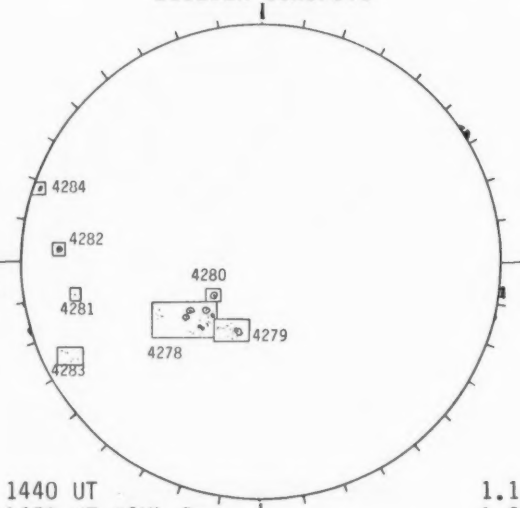


SACRAMENTO PEAK H-ALPHA



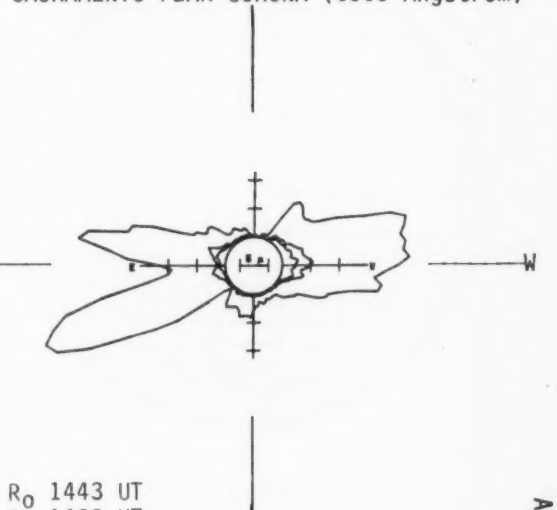
1440 UT

BOULDER SUNSPOTS



1440 UT
1450 UT BOUL Prom

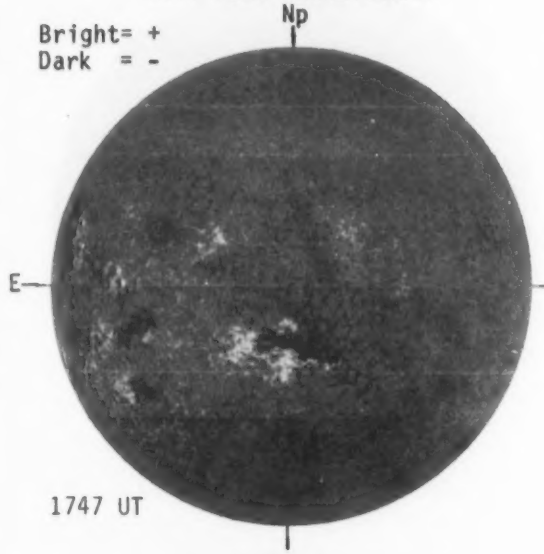
SACRAMENTO PEAK CORONA (5303 Angstrom)



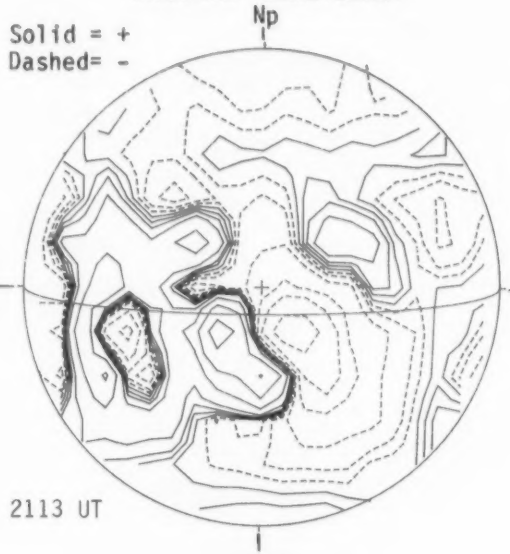
1.15 R_o 1443 UT
1.35 R_o 1428 UT
1.45 R_o 1435 UT

AUGUST 13, 1983 (P= 15.13, B_0= 6.52, L_0= 161.71)

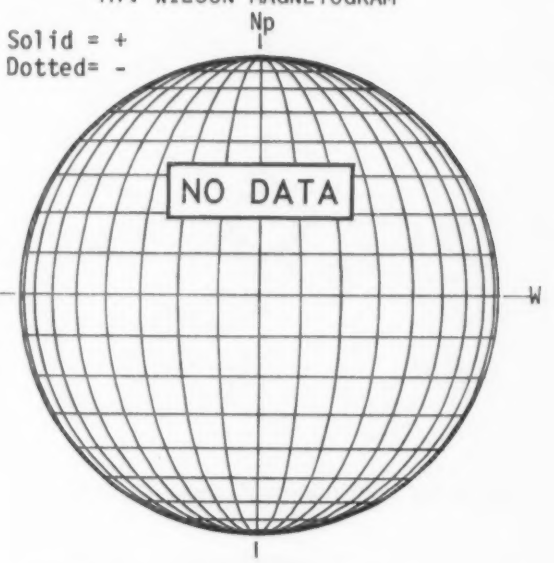
KITT PEAK MAGNETOGRAM



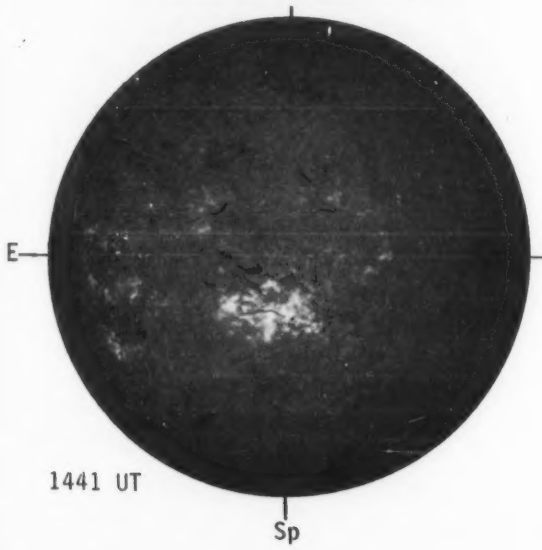
STANFORD MAGNETOGRAM



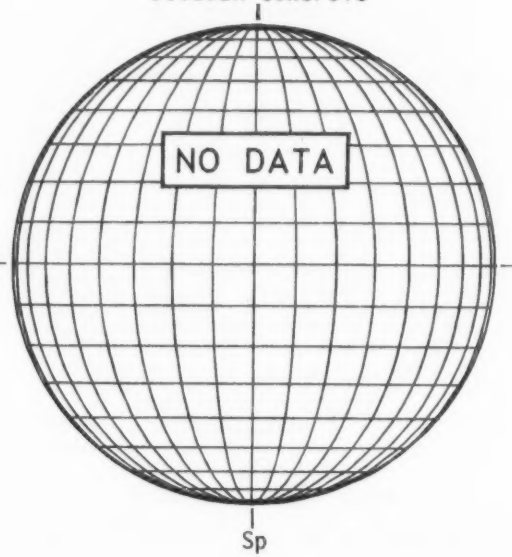
MT. WILSON MAGNETOGRAM



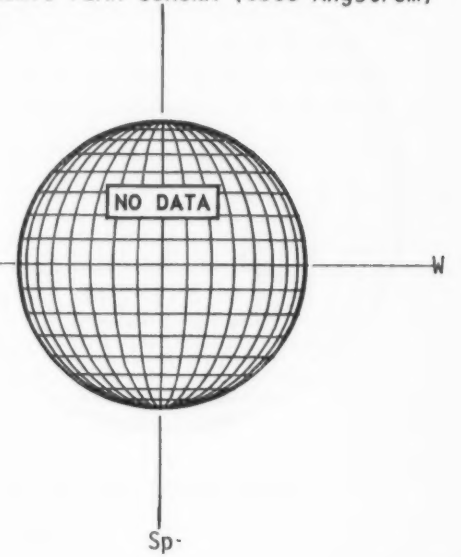
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



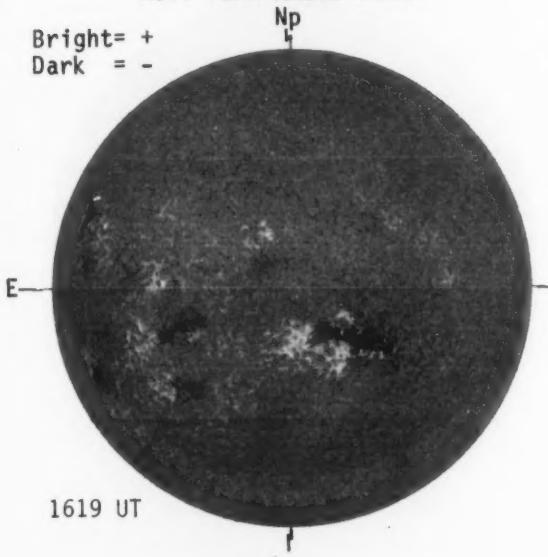
SACRAMENTO PEAK CORONA (5303 Angstrom)



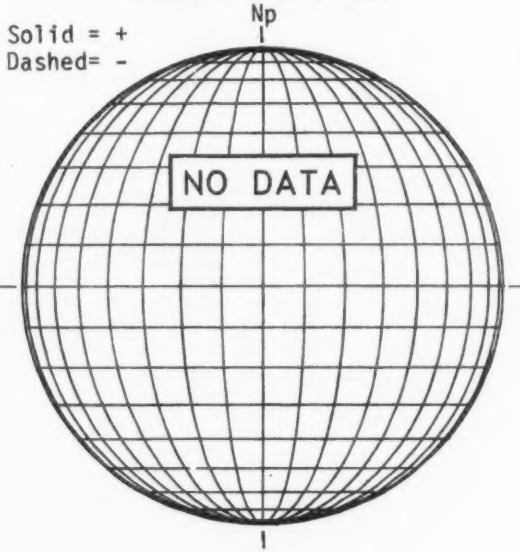
AUGUST 14, 1983 (P= 15.48, B_0= 6.57, L_0= 148.49)

A U G U S T 14, 1 9 8 3 (P= 15.48, B_o= 6.57, L_o= 148.49)

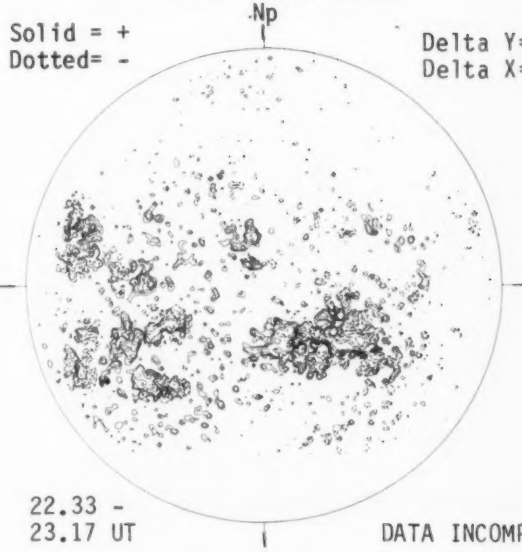
KITT PEAK MAGNETOGRAM



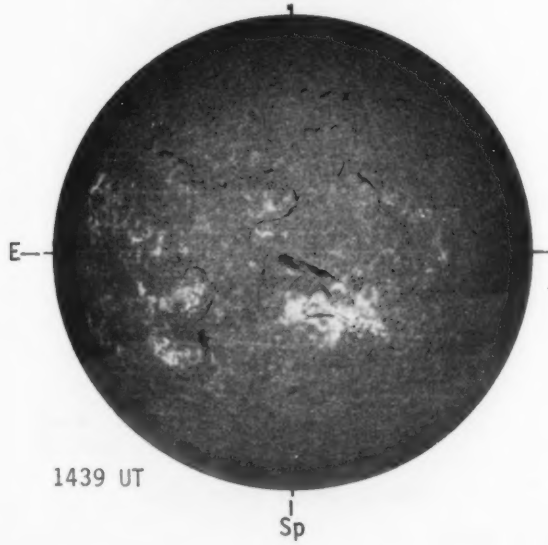
STANFORD MAGNETOGRAM



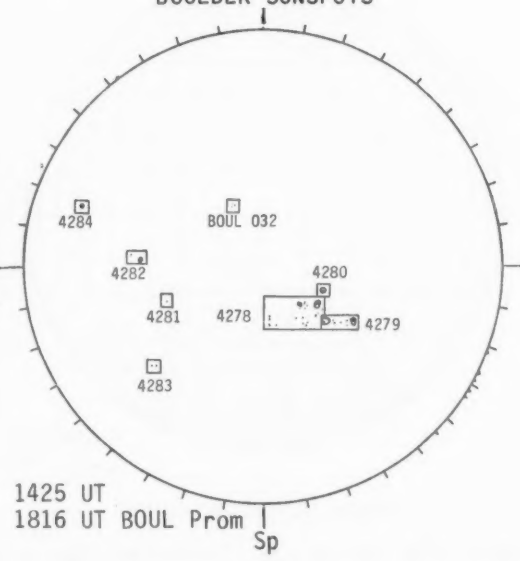
MT. WILSON MAGNETOGRAM



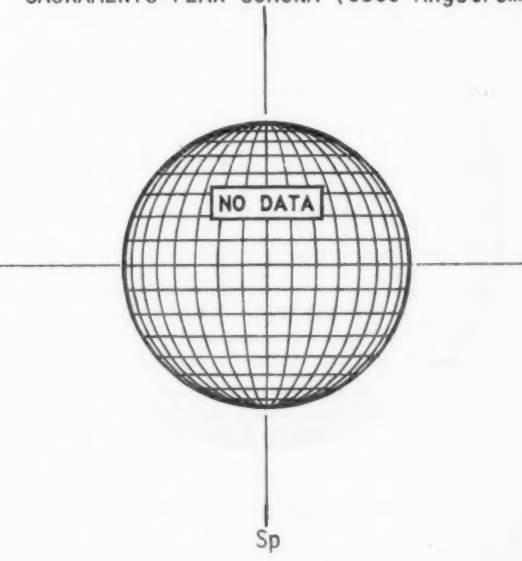
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS

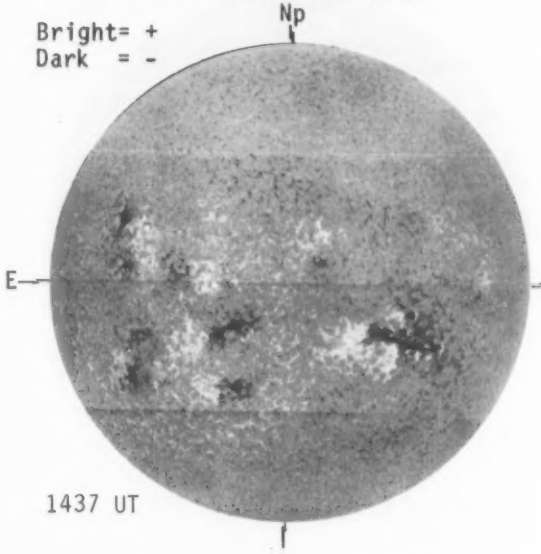


SACRAMENTO PEAK CORONA (5303 Angstrom)

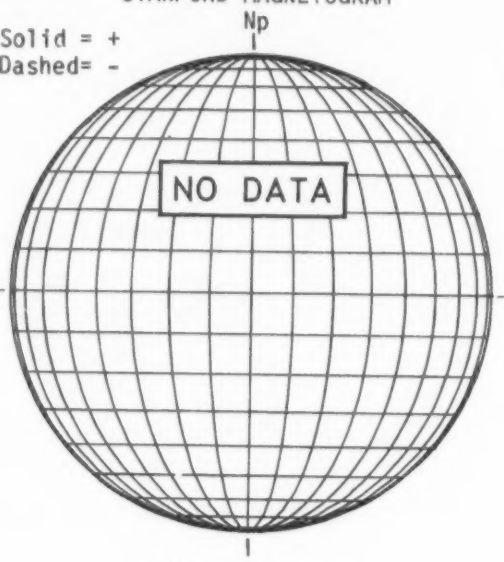


A U G U S T 15, 1 9 8 3 (P= 15.82, B_o= 6.62, L_o= 135.27)

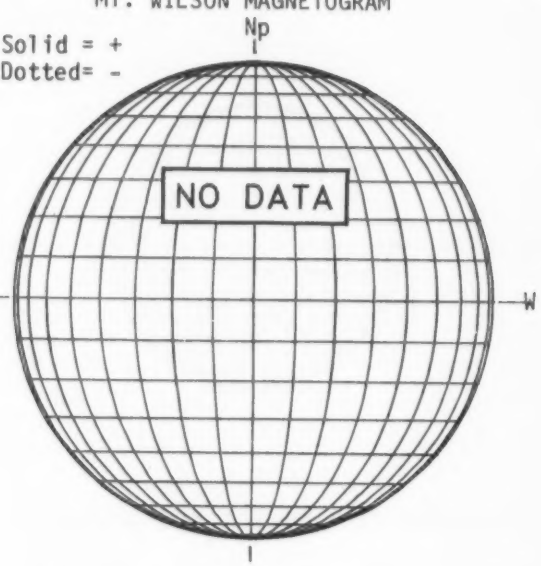
KITT PEAK MAGNETOGRAM



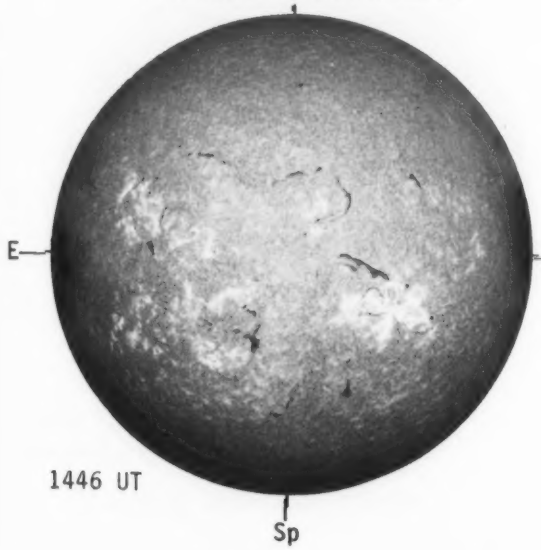
STANFORD MAGNETOGRAM



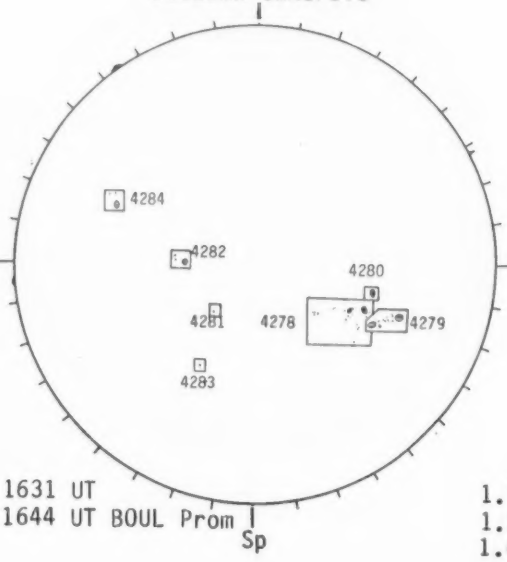
MT. WILSON MAGNETOGRAM



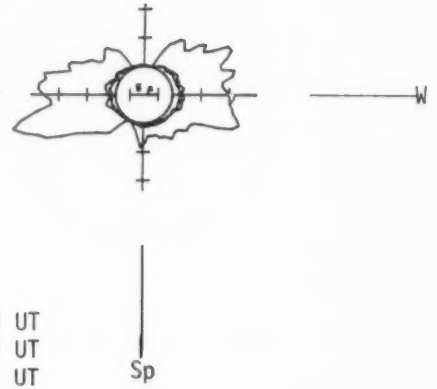
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 16, 1 9 8 3 (P= 16.16, B = 6.67, L_o= 122.05)

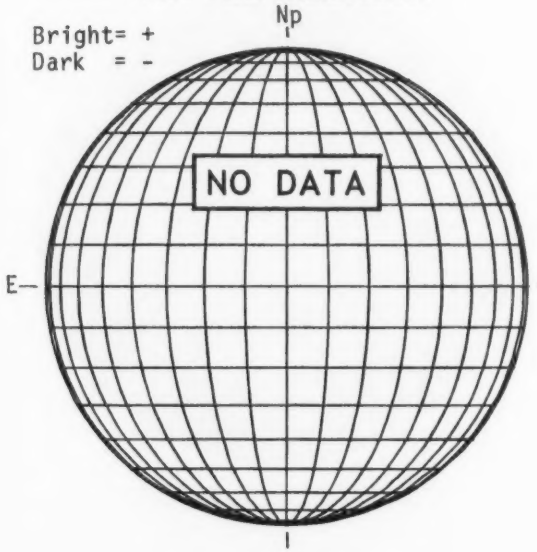
Sp

1.45 R_O 1601 UT Sp

A U G U S T 16, 1 9 8 3 (P= 16.16, B_O= 6.67, L_O= 122.05)

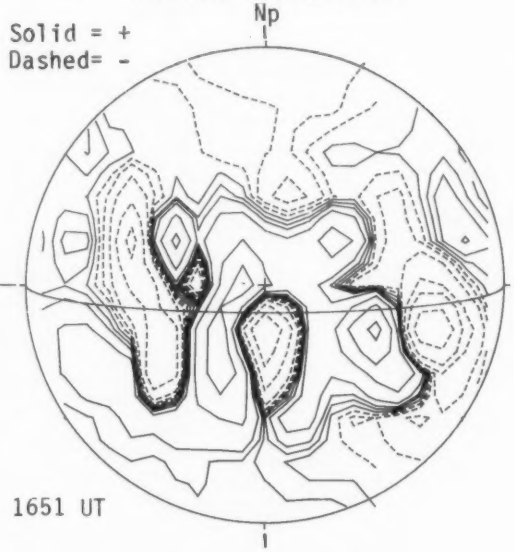
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

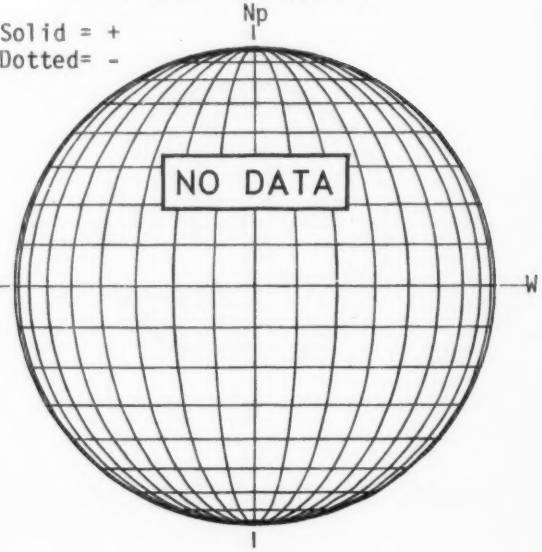
Solid = +
Dashed= -



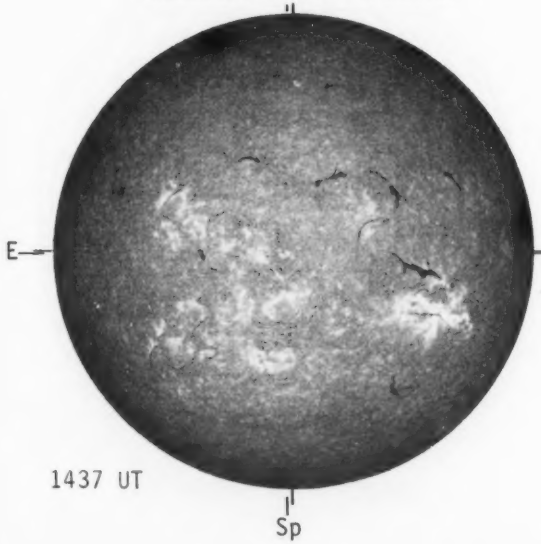
1651 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

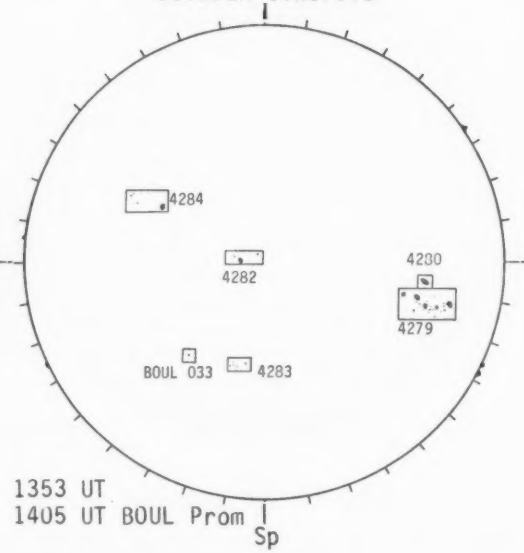


SACRAMENTO PEAK H-ALPHA



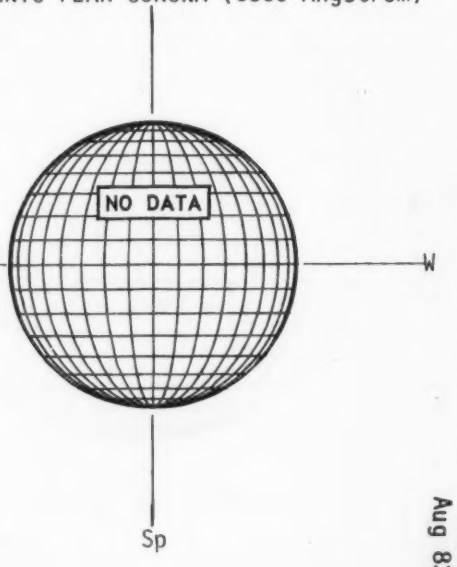
1437 UT

BOULDER SUNSPOTS



1353 UT
1405 UT BOUL Prom

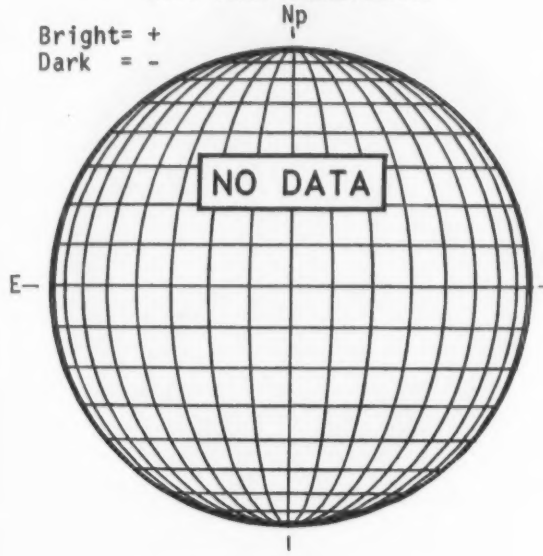
SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 17, 1 9 8 3 (P= 16.50, B_o= 6.72, L_o= 108.84)

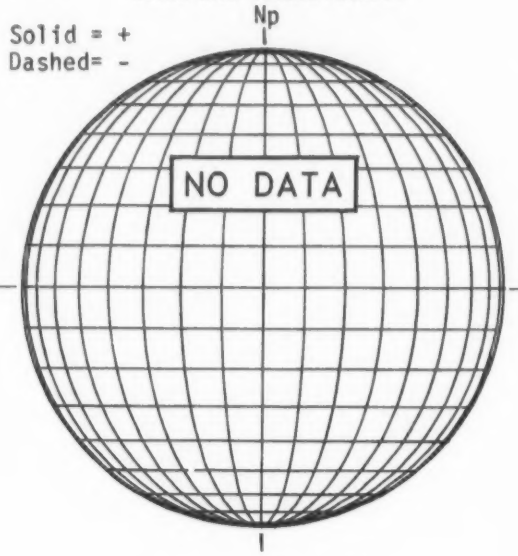
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



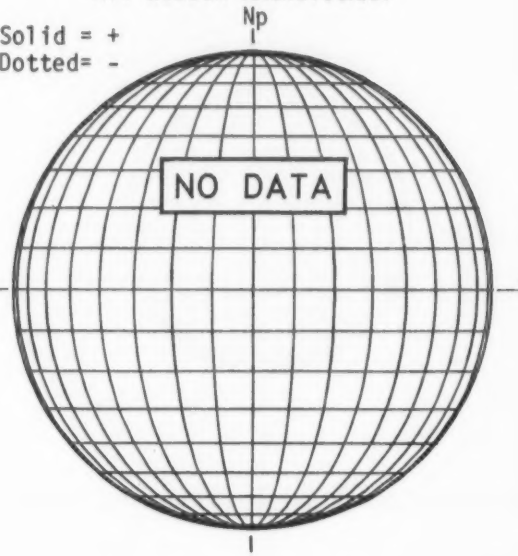
STANFORD MAGNETOGRAM

Solid = +
Dashed= -



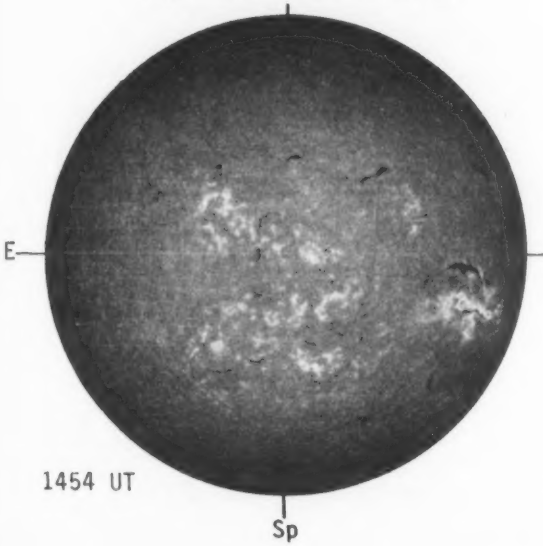
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -



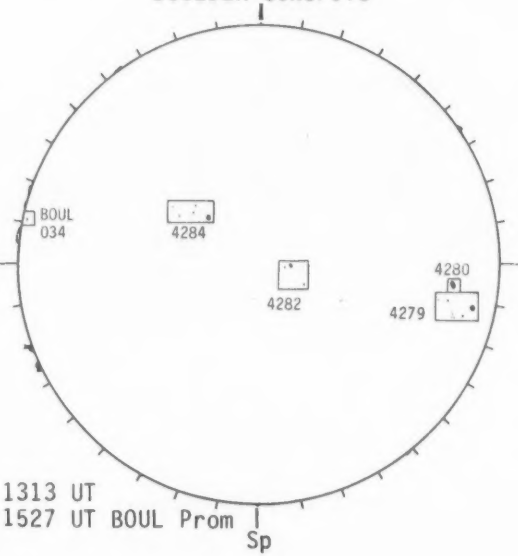
E W

SACRAMENTO PEAK H-ALPHA



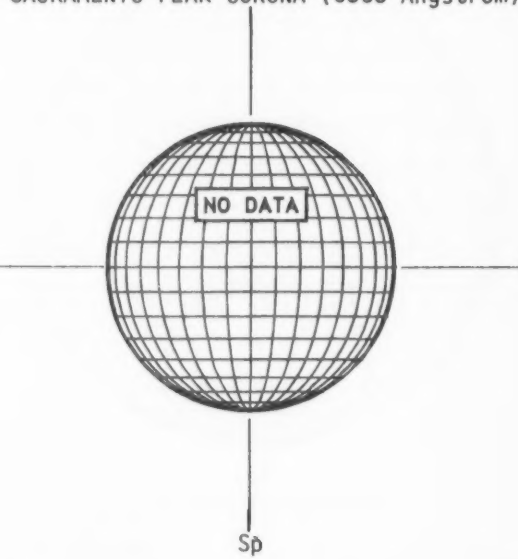
1454 UT

BOULDER SUNSPOTS



1313 UT
1527 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



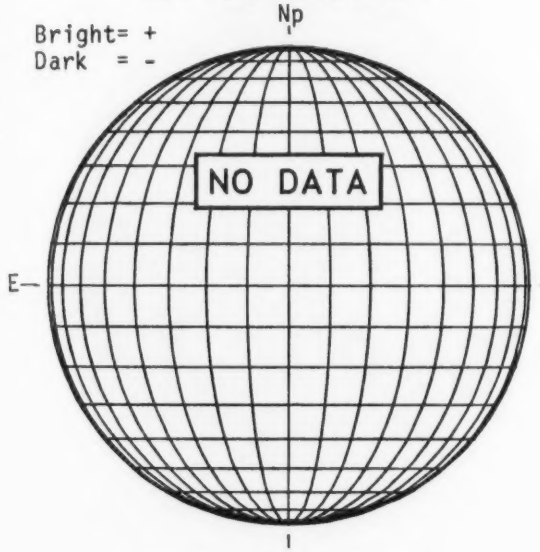
E W

A U G U S T 18, 1 9 8 3 (P= 16.83, B_o= 6.76, L_o= 95.62)

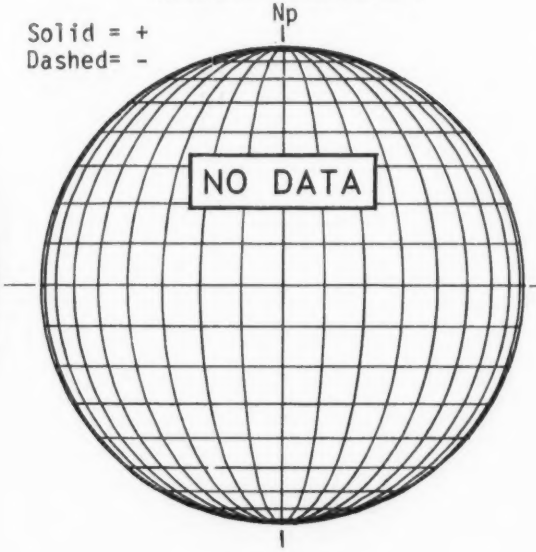
Sp Sp

A U G U S T 18, 1 9 8 3 (P= 16.83, B_o= 6.76, L_o= 95.62)

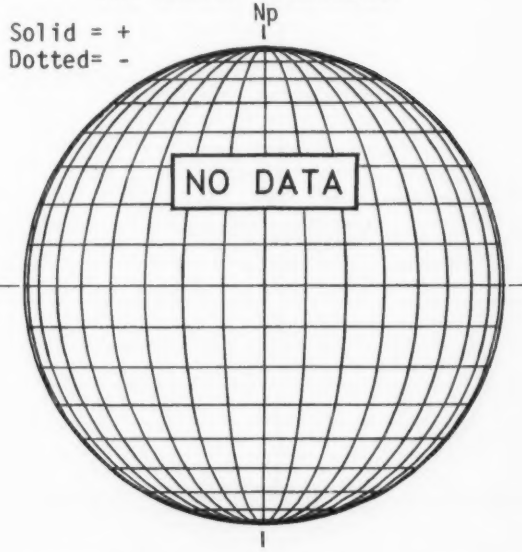
KITT PEAK MAGNETOGRAM



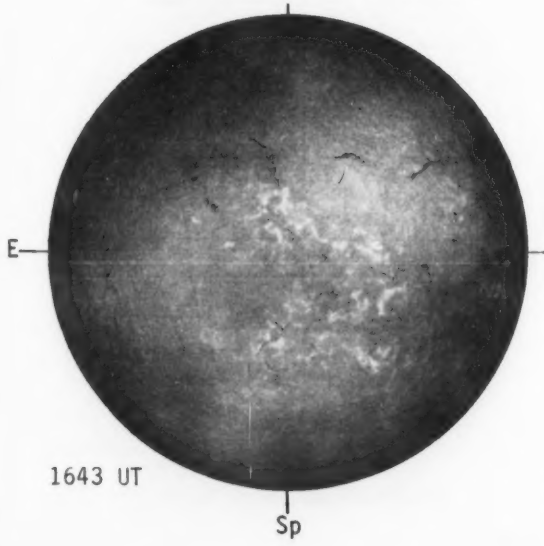
STANFORD MAGNETOGRAM



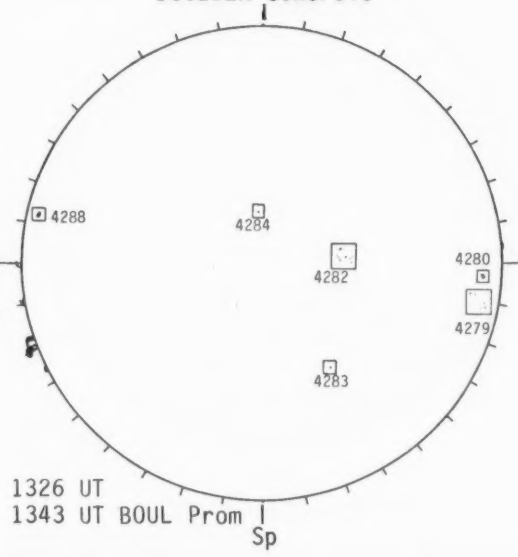
MT. WILSON MAGNETOGRAM



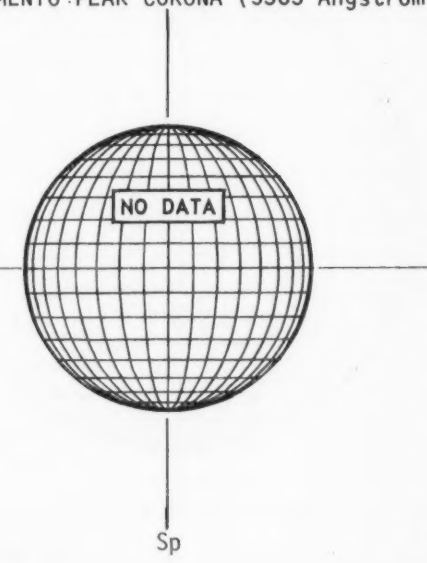
SACRAMENTO PEAK H-ALPHA



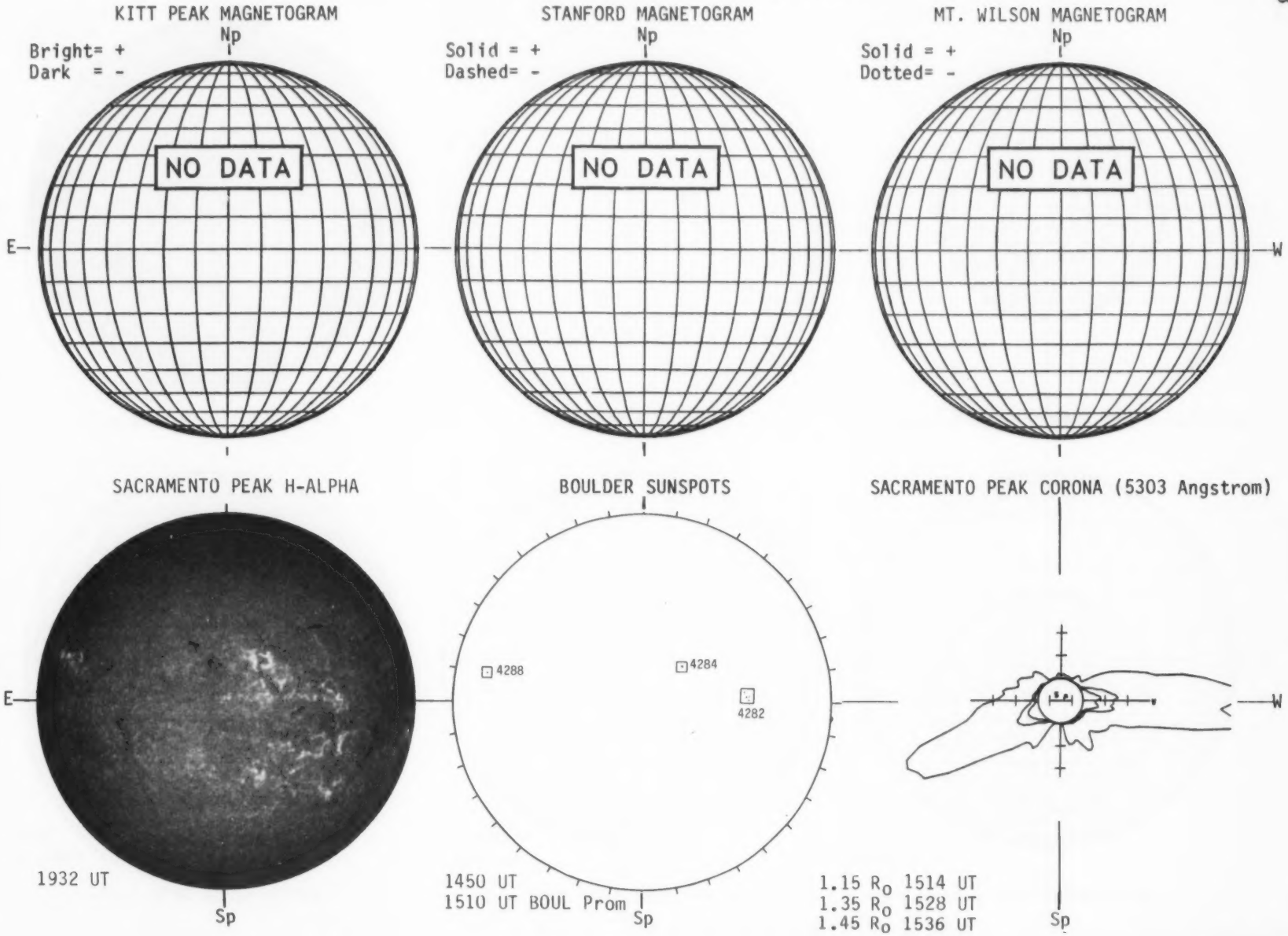
BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 19, 1 9 8 3 (P= 17.16, B_o= 6.81, L_o= 82.40)



Sp

Sp

1.45 R_o 1536 UT

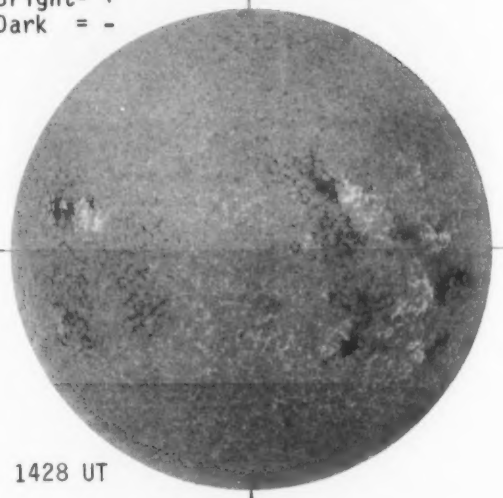
Sp

A U G U S T 20, 1 9 8 3 (P= 17.48, B_o= 6.85, L_o= 69.19)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



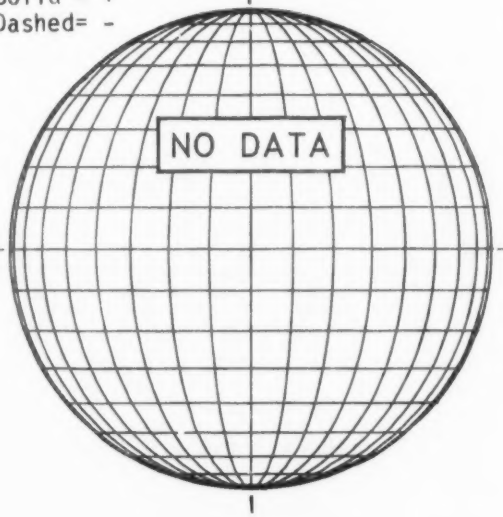
E

1428 UT

STANFORD MAGNETOGRAM

Np

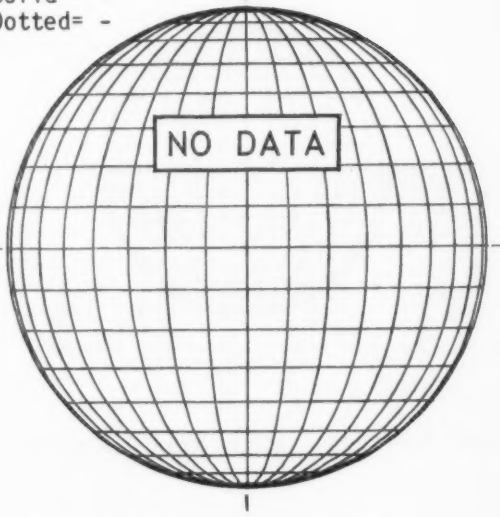
Solid = +
Dashed= -



MT. WILSON MAGNETOGRAM

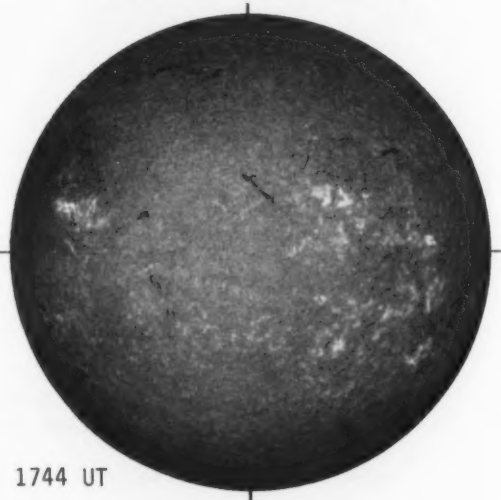
Np

Solid = +
Dotted= -



W

SACRAMENTO PEAK H-ALPHA

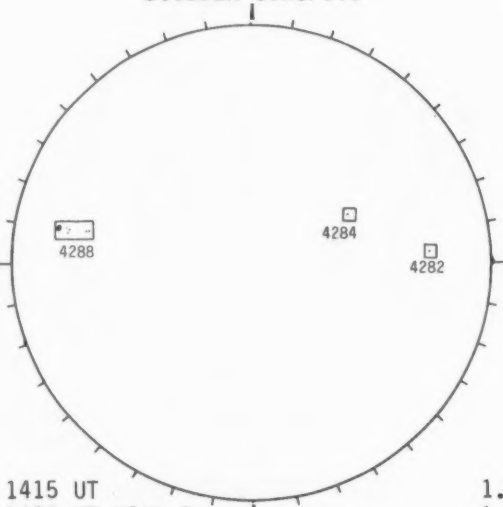


E

1744 UT

Sp

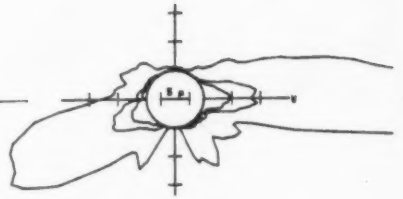
BOULDER SUNSPOTS



1415 UT
1420 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



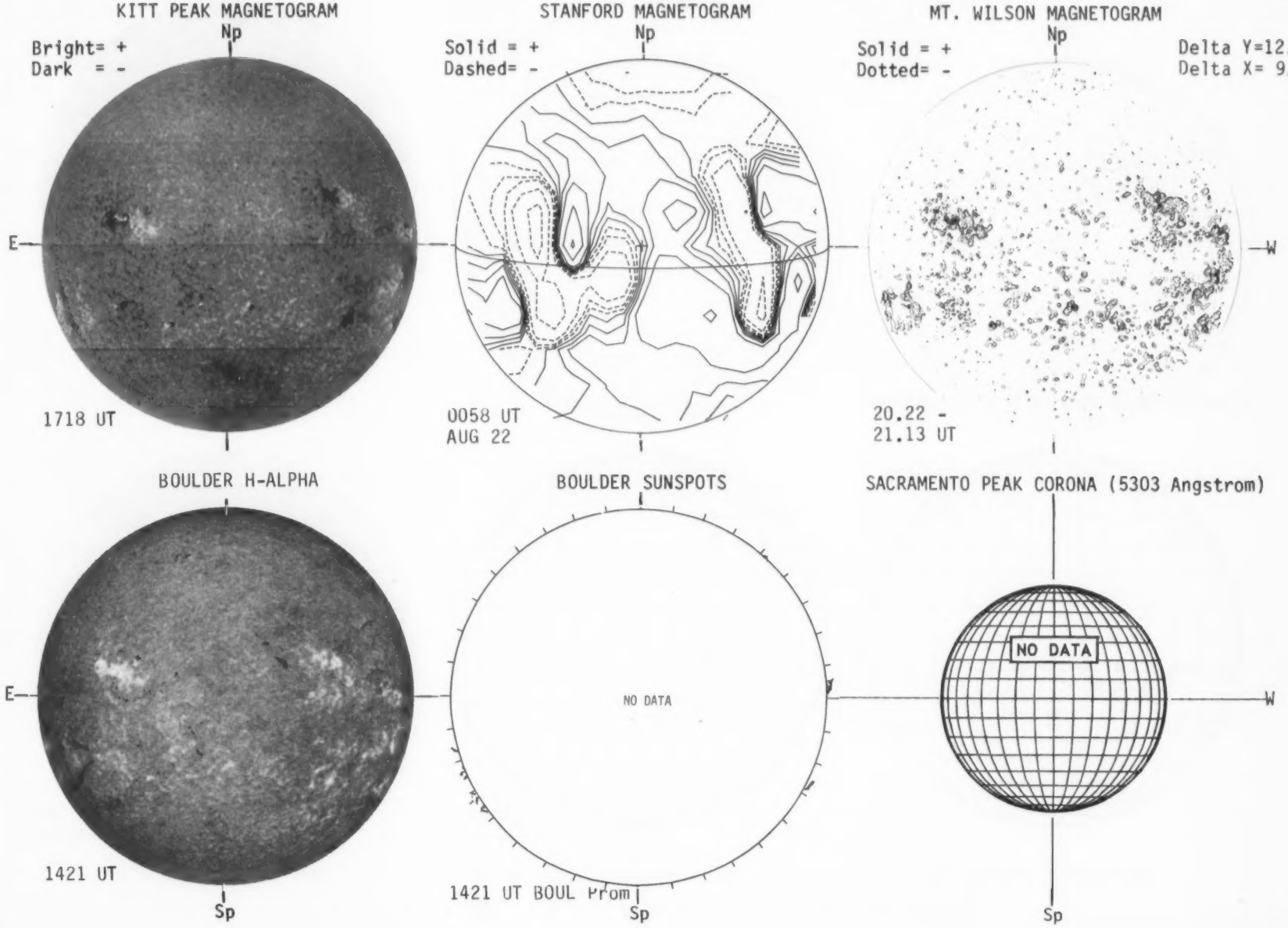
W

1.15 R_o 1506 UT
1.35 R_o 1513 UT
1.45 R_o 1520 UT

Sp

55
Aug 83

A U G U S T 21, 1 9 8 3 (P= 17.80, B_o= 6.89, L_o= 55.97)



A U G U S T 22, 1 9 8 3 (P= 18.11, B_o= 6.92, L_o= 42.75)

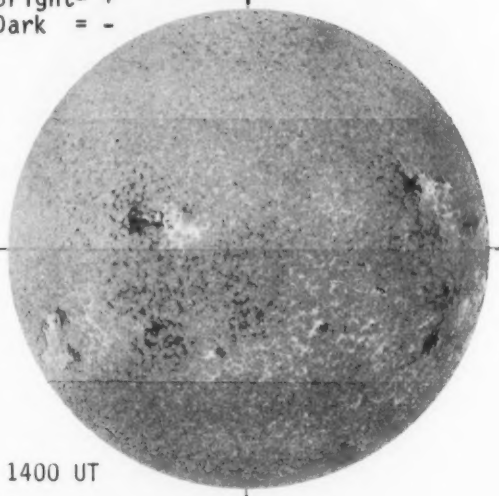
Sp Sp Sp

A U G U S T 22, 1 9 8 3 (P= 18.11, B_o= 6.92, L_o= 42.75)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



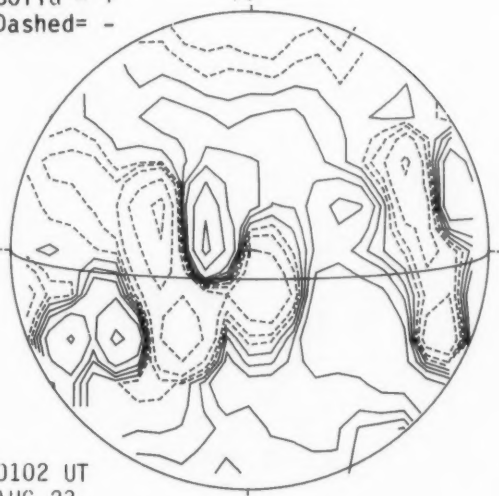
E

1400 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



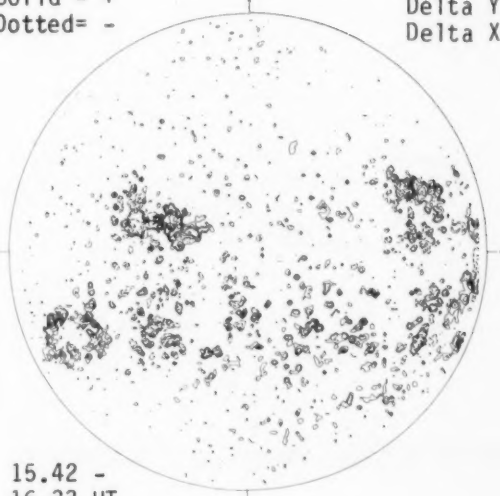
0102 UT
AUG 23

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

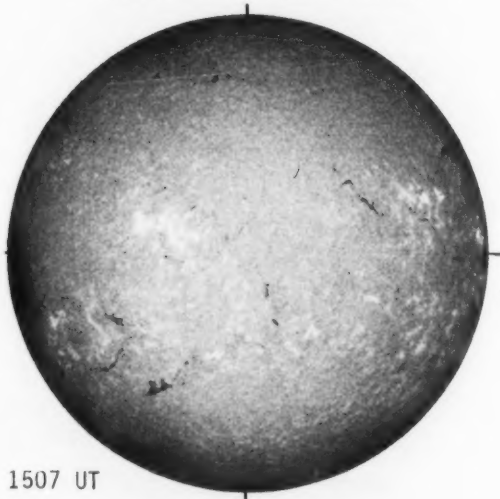
Delta Y=12.6
Delta X= 9.6



W

15.42 -
16.33 UT

SACRAMENTO PEAK H-ALPHA

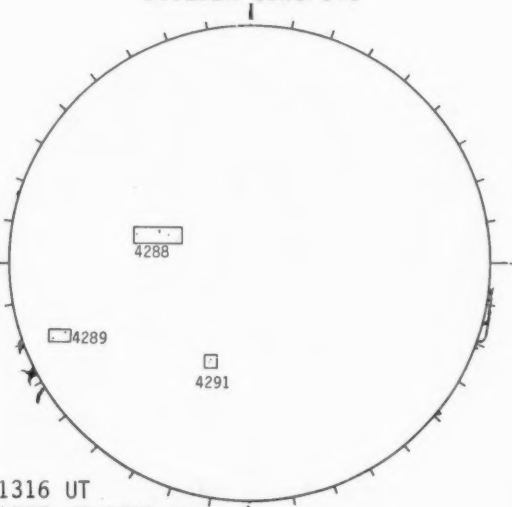


E

1507 UT

Sp

BOULDER SUNSPOTS



1316 UT
1509 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)

W

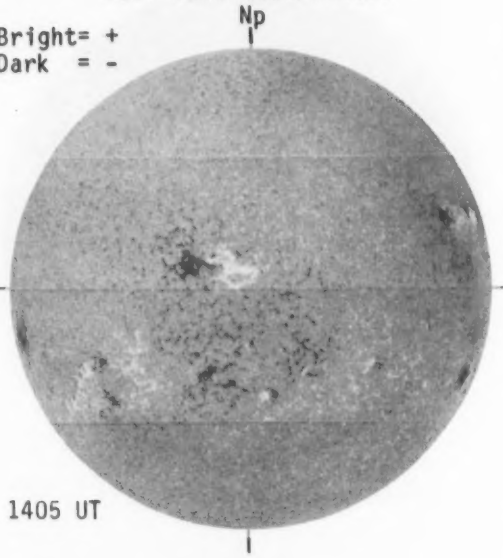
Sp

57
Aug 83

A U G U S T 23, 1 9 8 3 (P= 18.42, B_0= 6.96, L_0= 29.54)

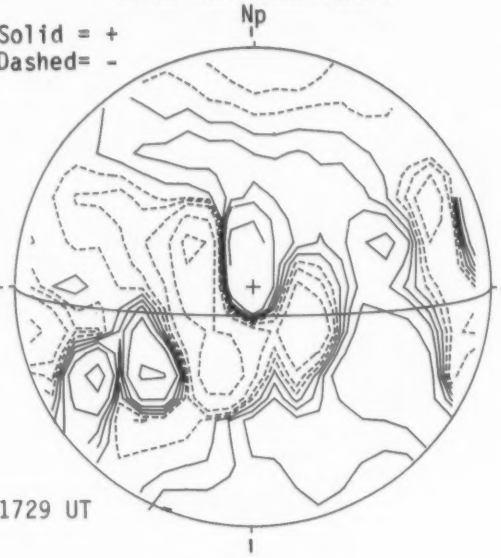
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

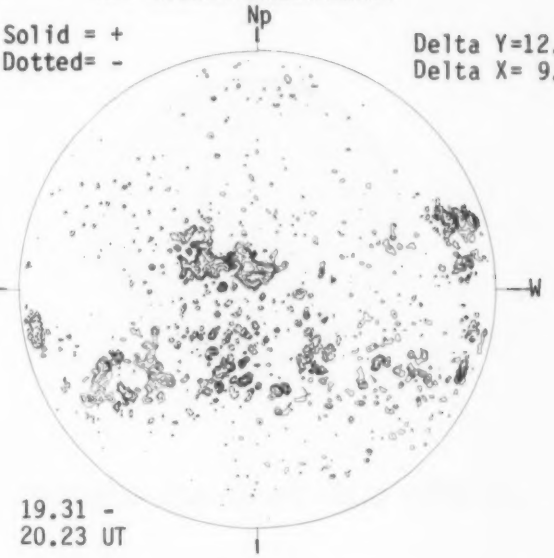
Solid = +
Dashed= -



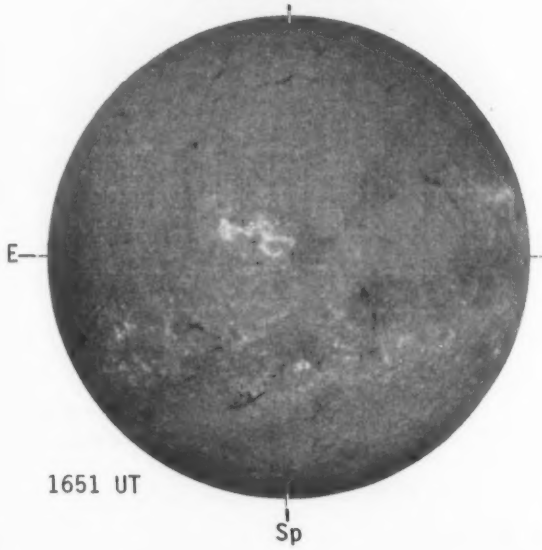
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

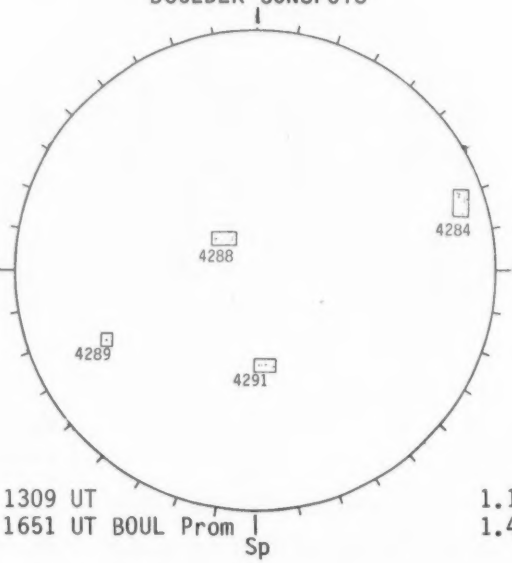
Delta Y=12.6
Delta X= 9.6



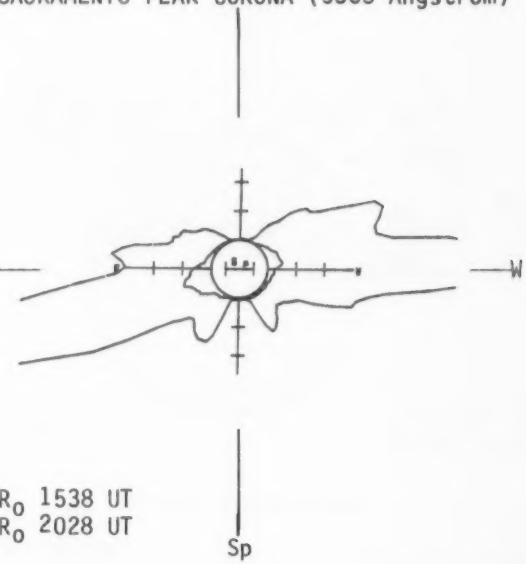
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



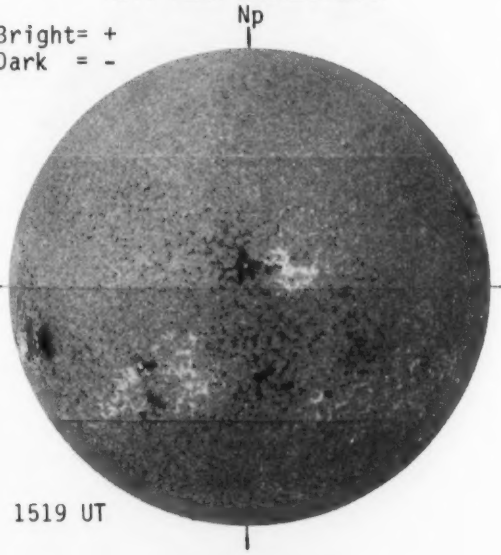
A U G U S T 24, 1 9 8 3 (P= 18.72, B_0= 6.99, L_0= 16.32)

Sp Sp Sp

A U G U S T 24, 1 9 8 3 (P= 18.72, B_o= 6.99, L_o= 16.32)

KITT PEAK MAGNETOGRAM

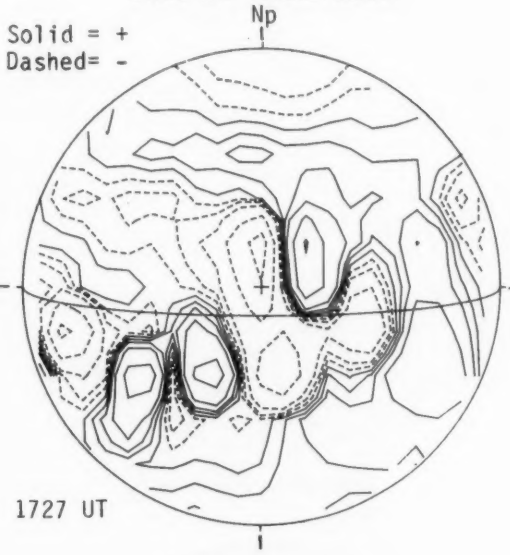
Bright= +
Dark = -



1519 UT

STANFORD MAGNETOGRAM

Solid = +
Dashed= -

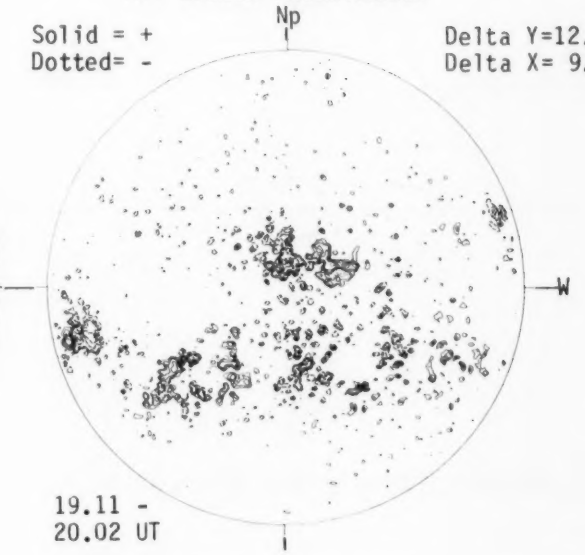


1727 UT

MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

Delta Y=12.6
Delta X= 9.6

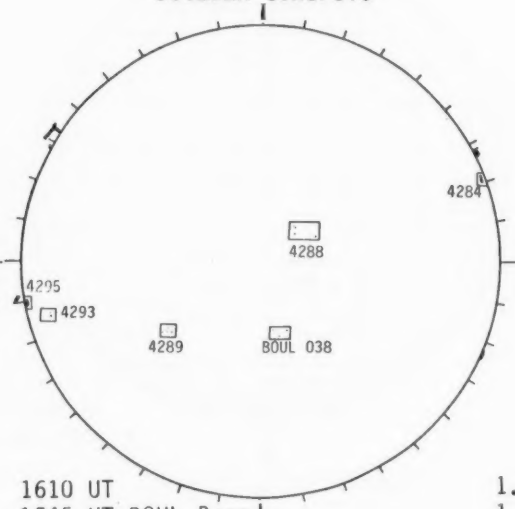


19.11 -
20.02 UT

BOULDER H-ALPHA

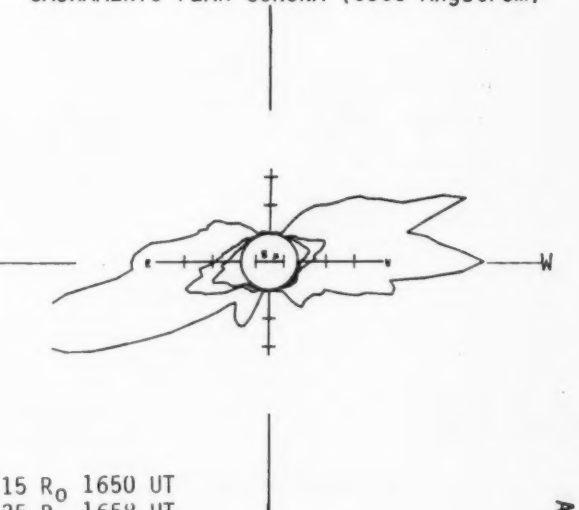
1545 UT

BOULDER SUNSPOTS



1610 UT
1545 UT BOUL Prom

SACRAMENTO PEAK CORONA (5303 Angstrom)



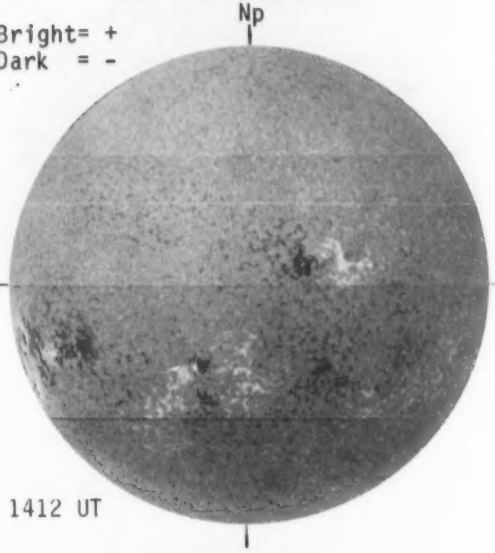
1.15 R_o 1650 UT
1.35 R_o 1658 UT
1.45 R_o 1703 UT

59
Aug 83

A U G U S T 25, 1 9 8 3 (P= 19.01, B_0= 7.02, L_0= 3.11)

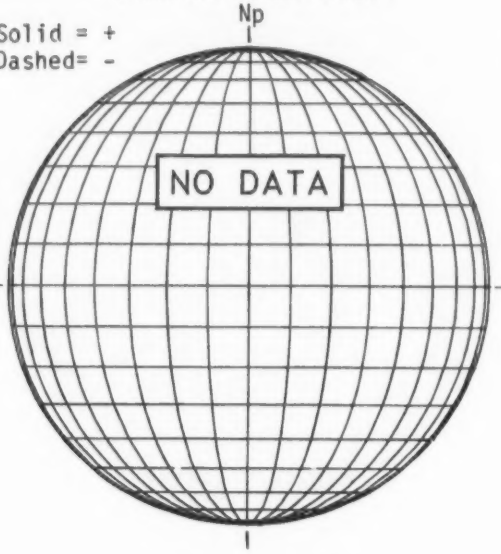
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

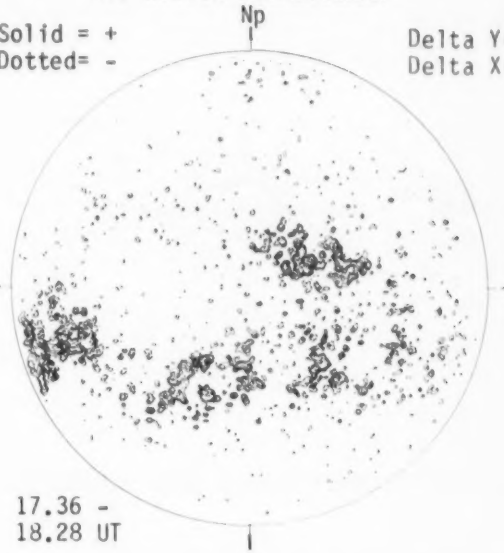
Solid = +
Dashed= -



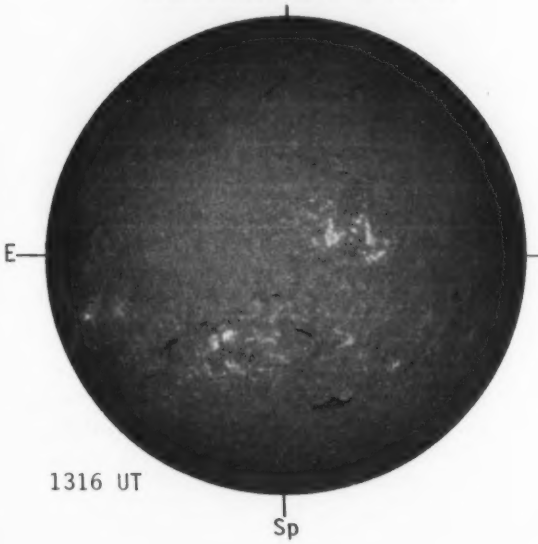
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

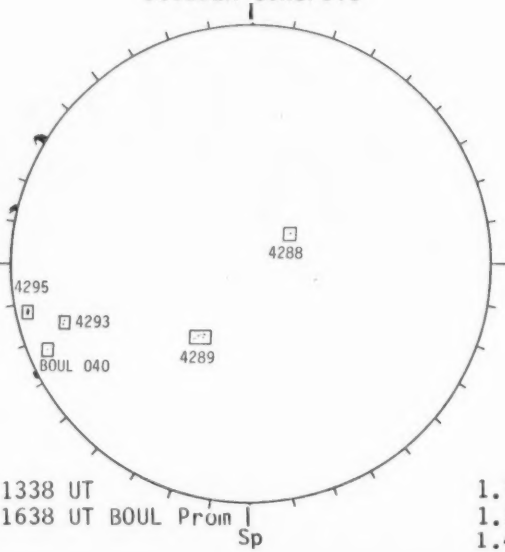
Delta Y=12.6
Delta X= 9.7



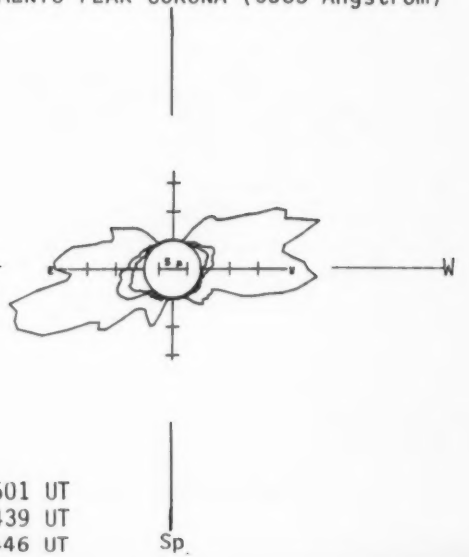
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



Sp

1638 UT BOUL Prom

Sp

1.35 R_O 1439 UT
1.45 R_O 1446 UT

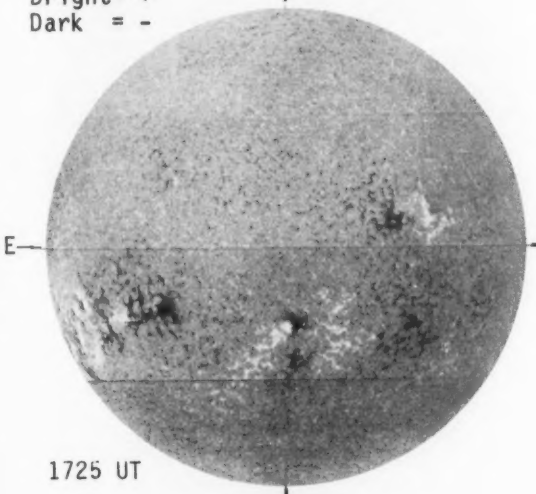
Sp

A U G U S T 26, 1 9 8 3 (P= 19.31, B_O= 7.05, L_O= 349.90)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



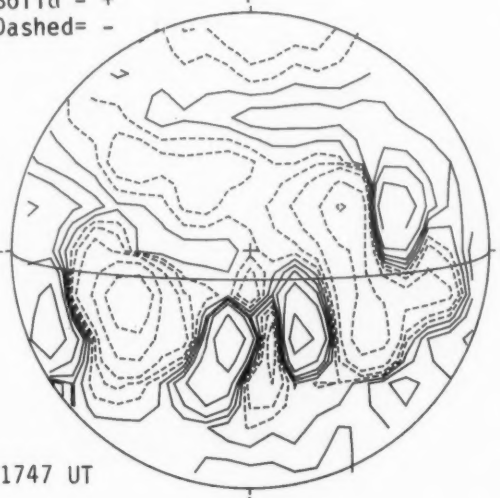
E

1725 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -



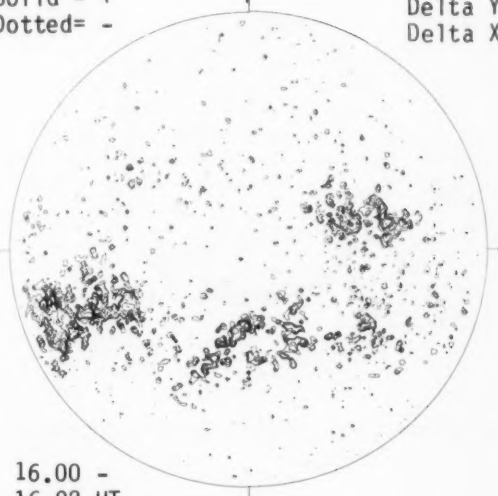
1747 UT

MT. WILSON MAGNETOGRAM

Np

Solid = +
Dotted= -

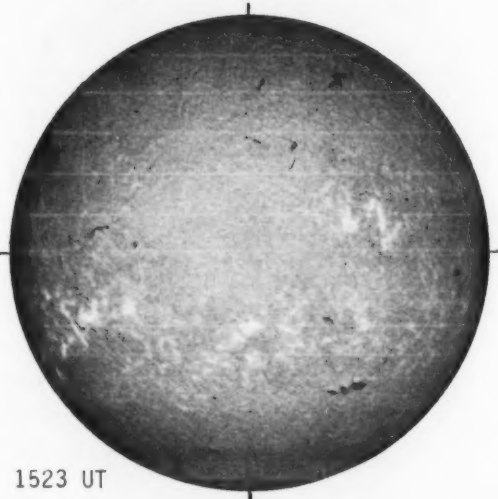
Delta Y=12.6
Delta X= 9.6



W

16.00 -
16.92 UT

SACRAMENTO PEAK H-ALPHA

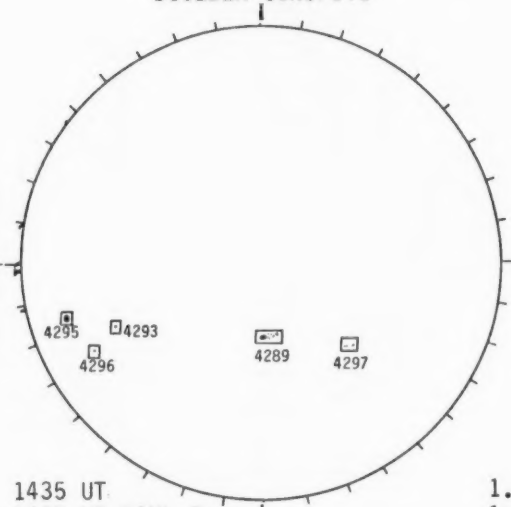


E

1523 UT

Sp

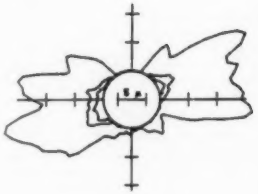
BOULDER SUNSPOTS



1435 UT
1445 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

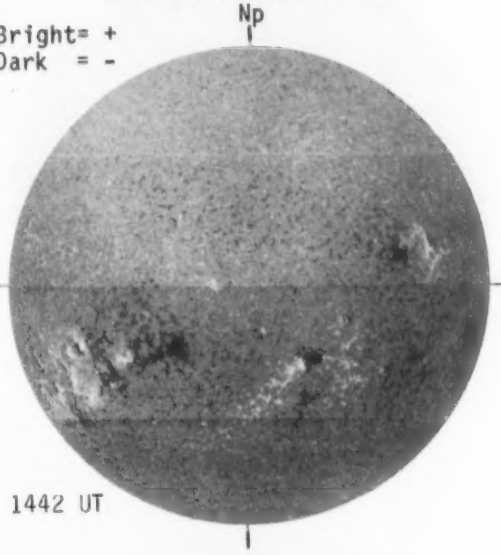
1.15 R_O 1502 UT
1.35 R_O 1410 UT
1.45 R_O 1417 UT

Sp

A U G U S T 27, 1 9 8 3 (P= 19.59, B_o= 7.08, L_o= 336.68)

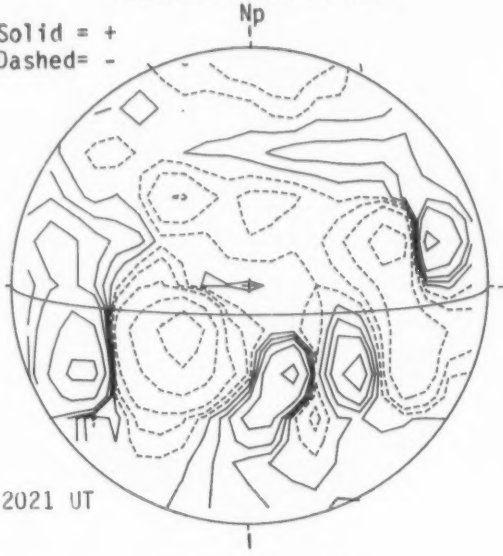
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

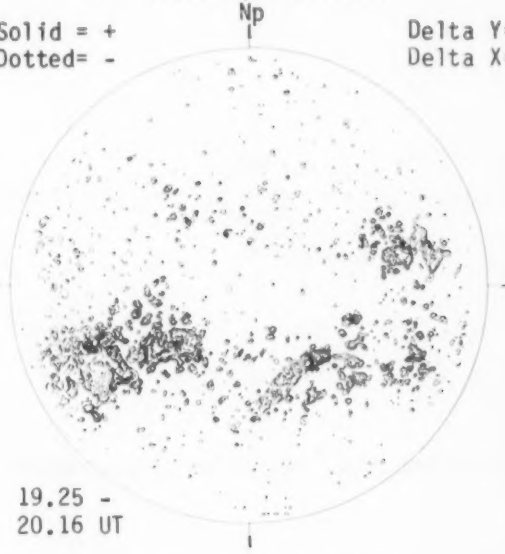
Solid = +
Dashed= -



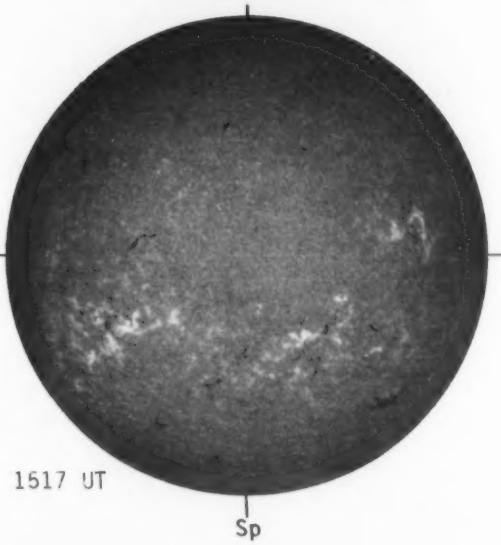
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

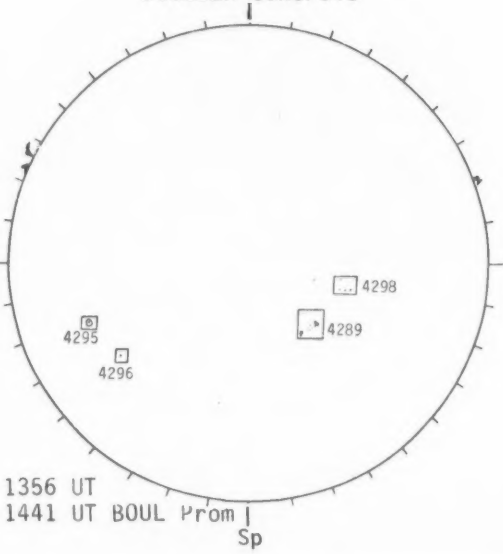
Delta Y=12.6
Delta X= 9.6



SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)

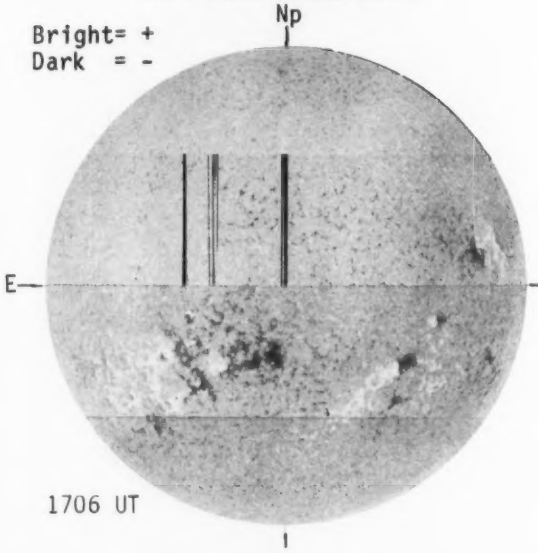
A U G U S T 28, 1 9 8 3 (P= 19.87, B_o= 7.11, L_o= 323.47)

Sp Sp Sp

A U G U S T 28, 1 9 8 3 (P= 19.87, B_o= 7.11, L_o= 323.47)

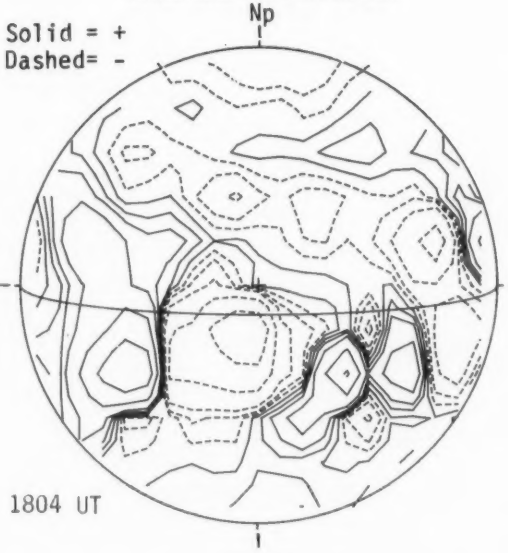
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

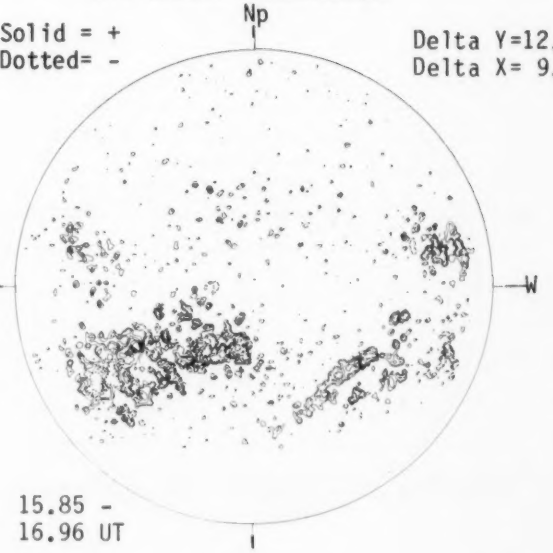
Solid = +
Dashed= -



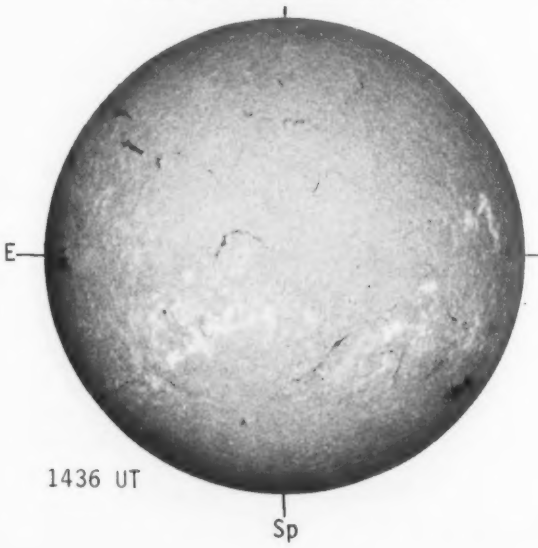
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

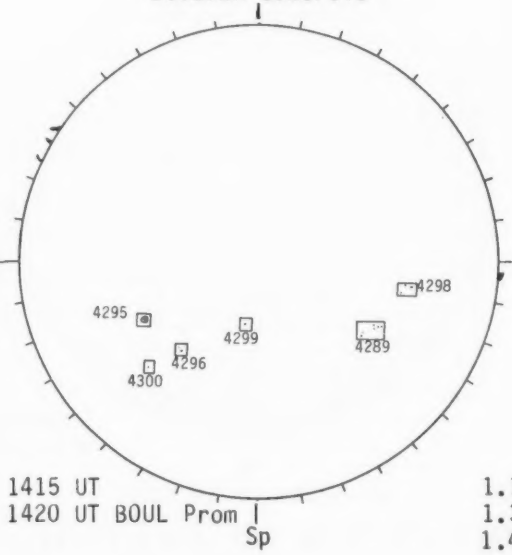
Delta Y=12.6
Delta X= 9.6



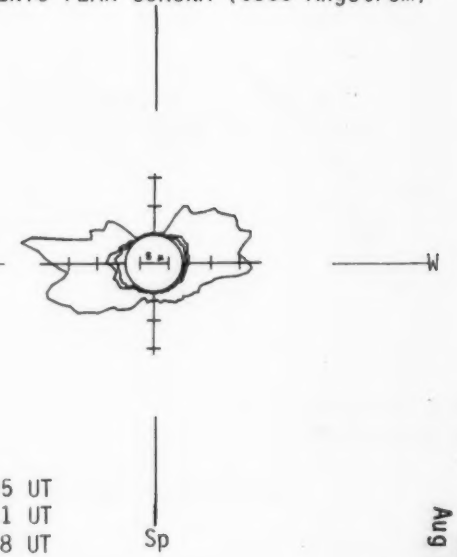
SACRAMENTO PEAK H-ALPHA



BOULDER SUNSPOTS



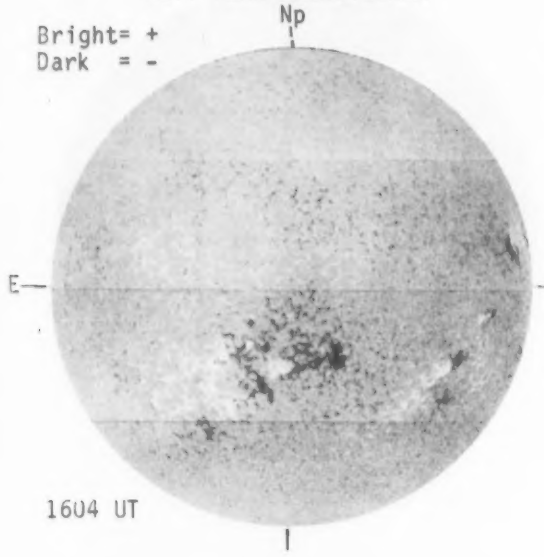
SACRAMENTO PEAK CORONA (5303 Angstrom)



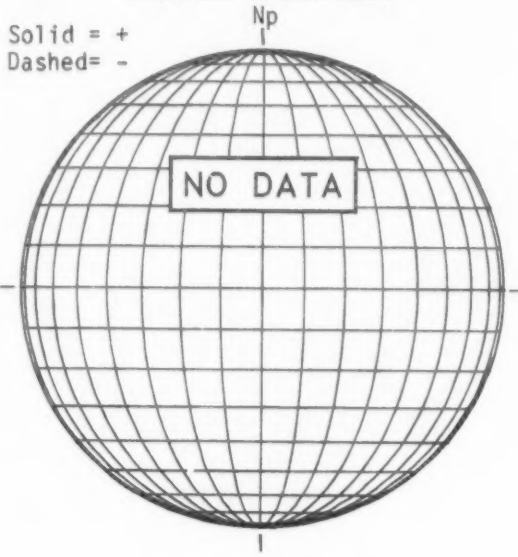
63
Aug 83

A U G U S T 29, 1 9 8 3 (P= 20.15, B_o= 7.13, L_o= 310.26)

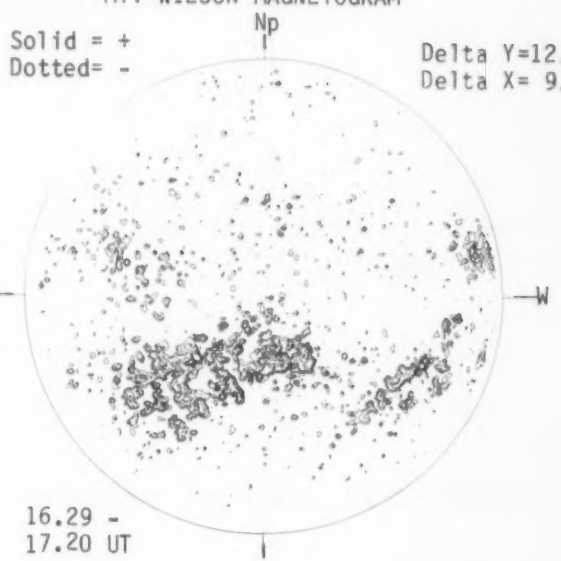
KITT PEAK MAGNETOGRAM



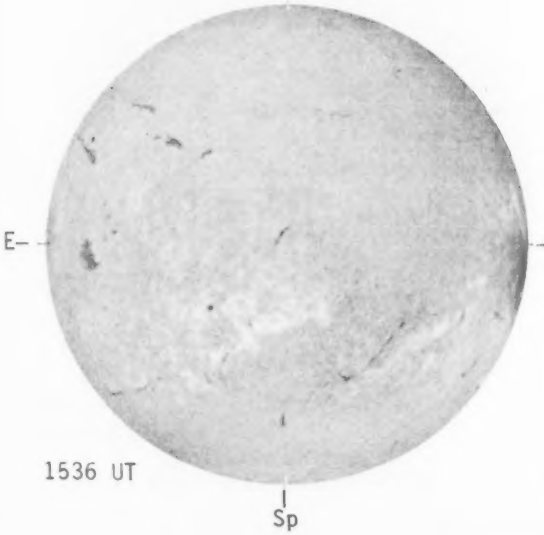
STANFORD MAGNETOGRAM



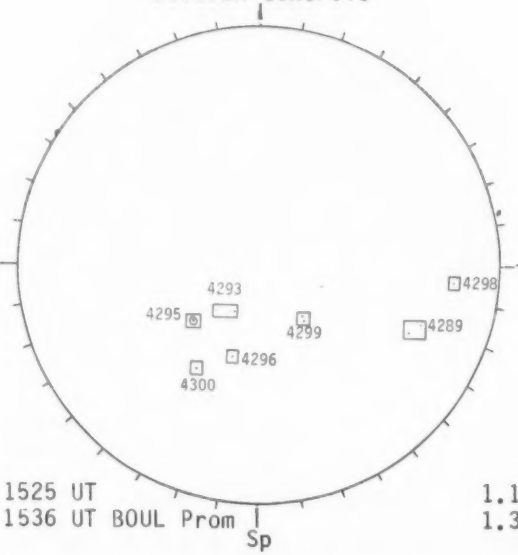
MT. WILSON MAGNETOGRAM



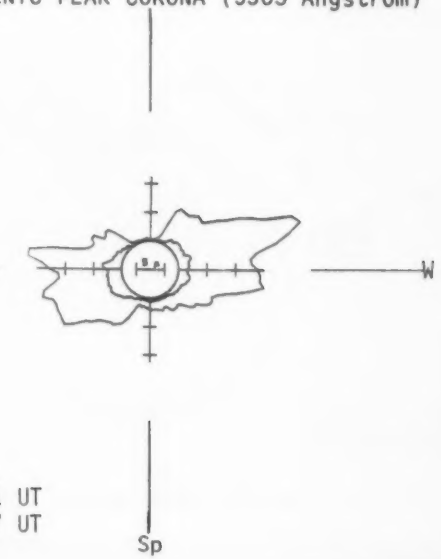
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



A U G U S T 30, 1 9 8 3 (P= 20.42, B_o= 7.15, L_o= 297.05)

Sp

Sp

1.35 R_o 1517 UT

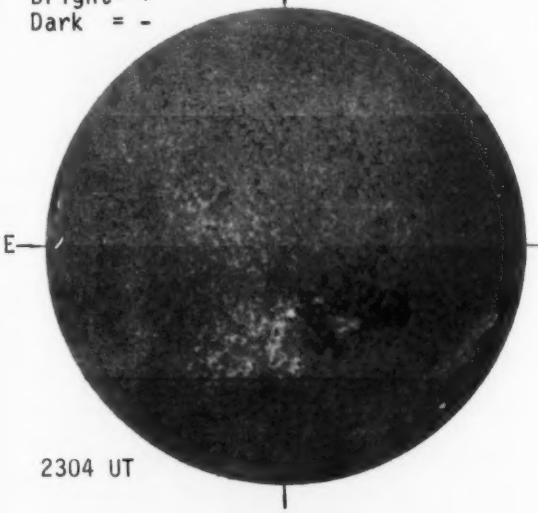
Sp

A U G U S T 30, 1 9 8 3 (P= 20.42, B_o= 7.15, L_o= 297.05)

KITT PEAK MAGNETOGRAM

Np

Bright= +
Dark = -



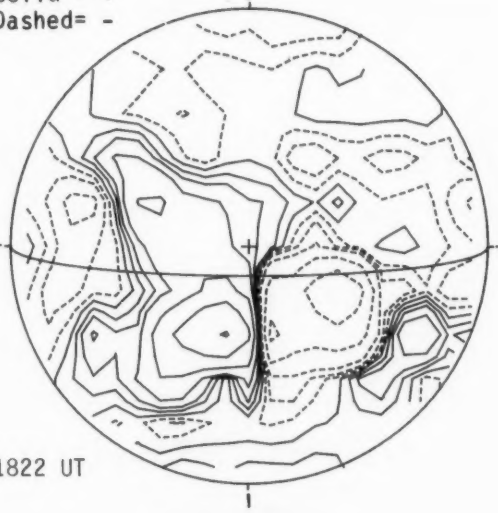
E

2304 UT

STANFORD MAGNETOGRAM

Np

Solid = +
Dashed= -

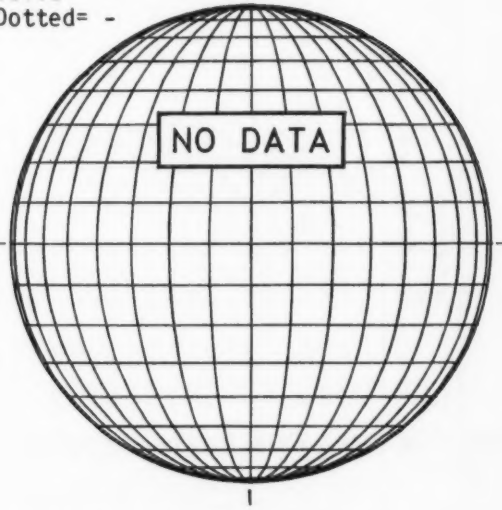


1822 UT

MT. WILSON MAGNETOGRAM

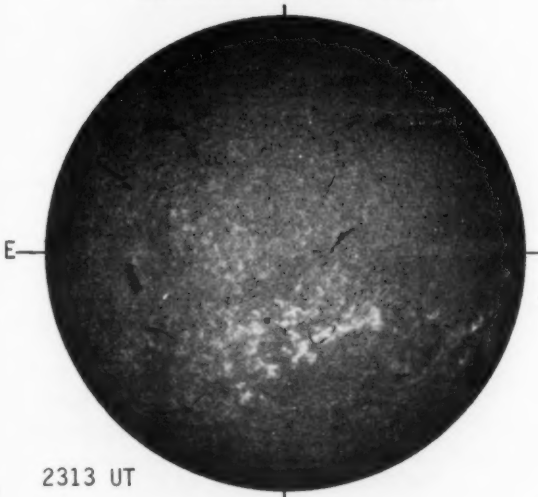
Np

Solid = +
Dotted= -



W

SACRAMENTO PEAK H-ALPHA

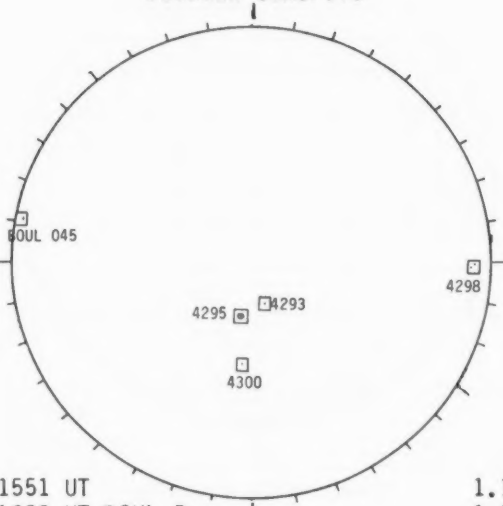


E

2313 UT

Sp

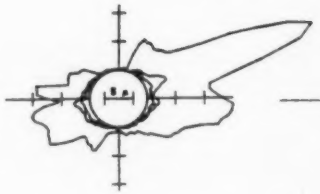
BOULDER SUNSPOTS



1551 UT
1920 UT BOUL Prom

Sp

SACRAMENTO PEAK CORONA (5303 Angstrom)



W

1.15 R_o 1418 UT
1.35 R_o 1424 UT
1.45 R_o 1431 UT

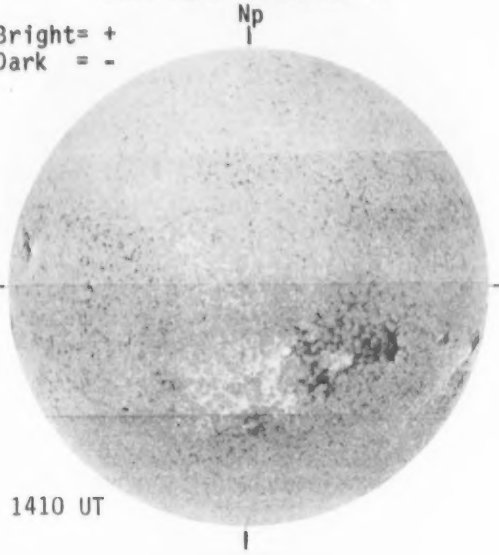
Sp

65
Aug 83

A U G U S T 31, 1 9 8 3 (P= 20.69, B_0= 7.17, L_0= 283.84)

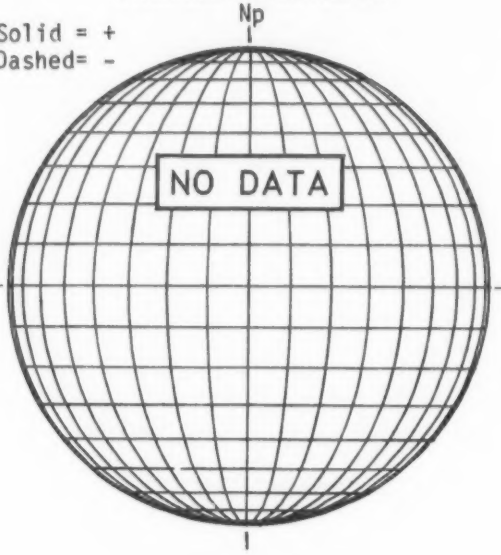
KITT PEAK MAGNETOGRAM

Bright= +
Dark = -



STANFORD MAGNETOGRAM

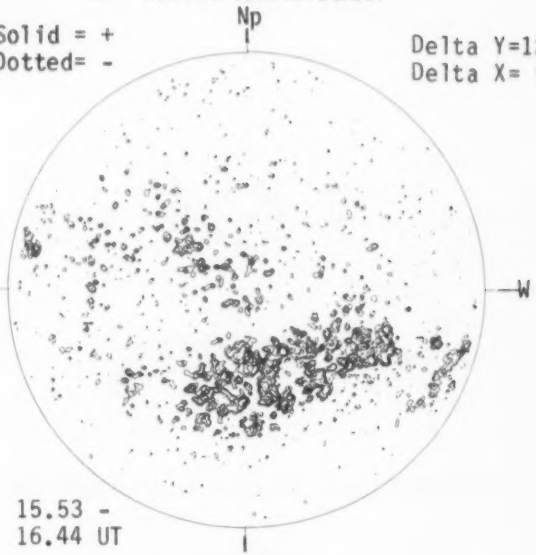
Solid = +
Dashed= -



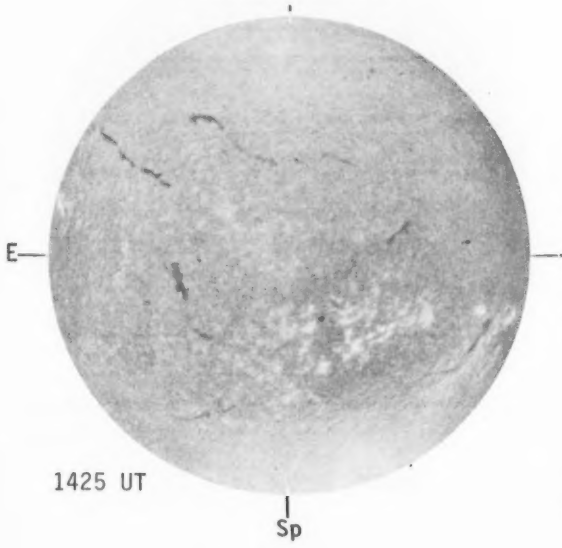
MT. WILSON MAGNETOGRAM

Solid = +
Dotted= -

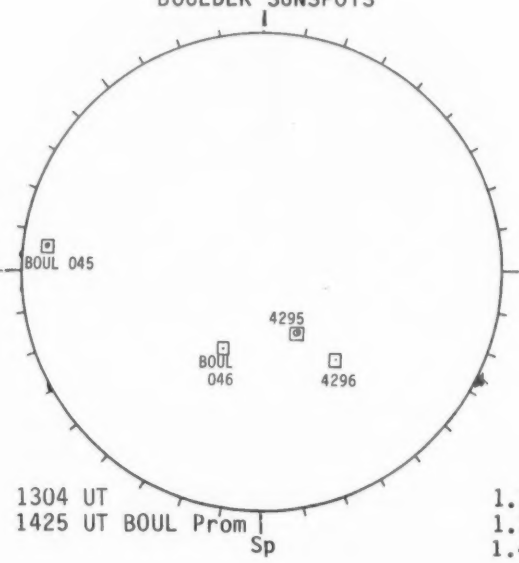
Delta Y=12.6
Delta X= 9.6



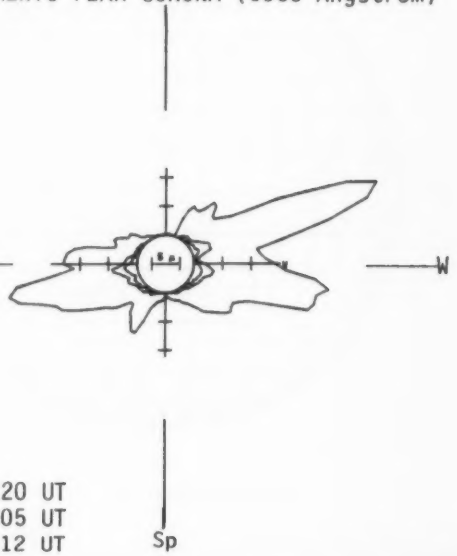
BOULDER H-ALPHA



BOULDER SUNSPOTS



SACRAMENTO PEAK CORONA (5303 Angstrom)



REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4263	23770	MWIL	07	27	1530	S09	E83	08	2.9	3	B					
4263		HOLL	07	27	1622	S07	E85	08	3.1		B	DSO	160	5	10	2
4263		PALE	07	27	1825	S07	E85	08	3.1		B	DSO	120	5	9	3
4263		LEAR	07	28	0048	S09	E79	08	3.0		B	DKO	500	10	9	2
4263		ATHN	07	28	0700	S09	E78	08	3.1		B	EKO	410	7	11	3
4263		RAMY	07	28	1345	S11	E75	08	3.2		BG	EKO	690	16	13	3
4263	23770	MWIL	07	28	1445	S09	E75	08	3.2	4	(B)					
4263		BOUL	07	28	1511	S09	E73	08	3.1		BG	EHI	720	33	13	3
4263		HOLL	07	28	1512	S09	E72	08	3.0		BG	EKI	750	16	13	4
4263		PALE	07	28	1800	S09	E73	08	3.2		BG	EKI	830	19	15	3
4263		LEAR	07	29	0123	S10	E69	08	3.2		BG	EKI	420	19	15	3
4263		BOUL	07	29	1239	S11	E60	08	3.0		BG	FKI	1040	28	20	3
4263		RAMY	07	29	1440	S10	E60	08	3.1		BG	EKO	900	22	14	2
4263	23770	MWIL	07	29	1500	S08	E60	08	3.1	5	(BY)					
4263		HOLL	07	29	1506	S10	E62	08	3.3		BG	FKI	1220	34	18	4
4263		LEAR	07	30	0215	S09	E52	08	3.0		BG	FKI	970	19	16	3
4263		RAMY	07	30	1140	S11	E49	08	3.2		B	FKO	1020	39	16	3
4263		BOUL	07	30	1308	S11	E49	08	3.2		BG	FKI	760	42	22	3
4263		HOLL	07	30	1415	S10	E50	08	3.4		BG	FKI	1200	41	21	4
4263	23770	MWIL	07	30	1500	S09	E46	08	3.1	5	(BY)					
4263		PALE	07	30	2016	S09	E46	08	3.3		BG	FKI	1010	46	21	3
4263		LEAR	07	31	0035	S09	E42	08	3.2		BG	FKI	1300	76	22	3
4263		ATHN	07	31	0820	S09	E38	08	3.2			FHI	810	19	16	2
4263		RAMY	07	31	1240	S10	E37	08	3.3		BG	FKI	1090	64	24	3
4263		HOLL	07	31	1420	S10	E38	08	3.5		BG	FKI	970	43	23	4
4263		BOUL	07	31	1430	S11	E32	08	3.0		B	FHI	950	24	16	2
4263	23770	MWIL	07	31	1600	S08	E33	08	3.1	5	(D)					
4263		PALE	07	31	1802	S10	E33	08	3.2		BG	FKC	1160	78	17	4
4263		ATHN	08	01	0700	S10	E24	08	3.1		BG	FKI	980	39	18	2
4263		RAMY	08	01	1305	S12	E20	08	3.1		BG	FKI	750	67	18	2
4263		BOUL	08	01	1355	S10	E29	08	3.8		B	FHI	30	48	19	3
4263	23770	MWIL	08	01	1515	S09	E19	08	3.1	6	(D)					
4263		PALE	08	01	1809	S10	E17	08	3.0		BG	FKI	930	69	20	3
4263		ATHN	08	02	0650	S10	E09	08	3.0		BG	FKI	880	38	20	3
4263	23770	MWIL	08	02	1500	S09	E07	08	3.2	6	(BY)					
4263		HOLL	08	02	1712	S10	E06	08	3.2		BG	FKI	860	62	20	3
4263		PALE	08	02	1810	S10	E04	08	3.1		BG	FKI	790	68	22	4
4263		ATHN	08	03	0615	S09	W01	08	3.2		BG	FHI	710	42	21	4
4263		LEAR	08	03	0755	S08	W05	08	3.0		BG	FKI	1320	71	21	3
4263		BOUL	08	03	1330	S09	W09	08	2.9		B	FHI	850	59	21	4
4263	23770	MWIL	08	03	1530	S09	W07	08	3.1	5	(BY)					
4263		RAMY	08	03	1540	S09	W09	08	3.0		BG	FKI	850	99	22	4
4263		HOLL	08	03	2120	S09	W11	08	3.1		BG	FHI	740	57	20	3
4263		LEAR	08	04	0046	S08	W12	08	3.1		BG	FHI	670	53	21	3
4263		ATHN	08	04	0700	S09	W16	08	3.1		BG	FHI	660	32	20	4
4263		RAMY	08	04	1200	S10	W20	08	3.0		BG	FKI	600	96	23	4
4263		BOUL	08	04	1312	S09	W20	08	3.0		BG	FHI	900	52	21	3
4263	23770	MWIL	08	04	1445	S09	W21	08	3.0	5	(BY)					
4263		HOLL	08	04	1454	S09	W22	08	3.0		BG	FHI	620	51	22	4
4263		PALE	08	04	1818	S09	W24	08	3.0		BG	FHI	580	45	21	3
4263		LEAR	08	05	0129	S09	W22	08	3.4		BG	FHI	470	32	23	3
4263		RAMY	08	05	1235	S08	W31	08	3.2		BG	FKO	910	58	22	3
4263		BOUL	08	05	1346	S09	W32	08	3.2		BG	FHI	310	32	20	3
4263	23770	MWIL	08	05	1500	S09	W32	08	3.2	5	(BY)					
4263		HOLL	08	05	1510	S10	W35	08	3.0		BG	FHO	390	26	20	3
4263		PALE	08	05	1824	S10	W37	08	3.0		BG	FHO	460	22	19	3
4263		LEAR	08	06	0130	S10	W40	08	3.1		BG	FHO	590	36	21	3
4263		ATHN	08	06	0730	S09	W41	08	3.2		BG	FHO	470	17	20	2
4263		RAMY	08	06	1220	S09	W47	08	3.0		BG	FKO	670	37	28	3
4263		HOLL	08	06	1405	S10	W48	08	3.0		BG	FHO	500	25	23	3
4263		BOUL	08	06	1630	S05	W45	08	3.3		B	FHI	510	28	22	2
4263	23770	MWIL	08	06	1630	S10	W45	08	3.3	6	(BY)					
4263		PALE	08	06	2324	S12	W51	08	3.1		BG	FHO	450	20	20	3
4263		MANI	08	07	0004	S10	W51	08	3.2			FHO	570	26	20	3
4263		LEAR	08	07	0138	S11	W52	08	3.2		BG	FHO	510	29	28	3
4263		ATHN	08	07	0700	S08	W51	08	3.5		BG	FKO	340	10	19	3
4263		RAMY	08	07	1210	S09	W60	08	3.0		BG	FKO	500	18	28	3
4263		BOUL	08	07	1330	S08	W55	08	3.4		B	FHI	430	11	22	4
4263		PALE	08	07	1735	S10	W62	08	3.1		BG	FHO	300	17	24	4
4263		LEAR	08	08	0023	S08	W64	08	3.2		BG	FHO	530	19	25	3
4263		ATHN	08	08	0630	S10	W66	08	3.3		BG	DHO	260	5	9	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4263		HOLL	08	08	1410	S11	W68	08	3.5		B	DHI	340	3	4	4
4263		BOUL	08	08	1440	S10	W67	08	3.6		B	HSX	250	2	3	4
4263	23770	MWIL	08	08	1500	S11	W68	08	3.5	5	(B)					
4263		LEAR	08	09	0051	S10	W73	08	3.6		B	CHO	260	3	6	3
4263		ATHN	08	09	0600	S10	W76	08	3.5		BG	DHO	190	2	8	3
4263		RAMY	08	09	1215	S09	W82	08	3.4		B	CKO	250	3	5	4
4263		BOUL	08	09	1355	S09	W81	08	3.5		A	HSX	200	1	2	3
4263		HOLL	08	09	1430	S11	W81	08	3.5		A	HHX	300	1	3	4
4263		PALE	08	09	1735	S11	W85	08	3.3		A	HHX	270	1	3	3
		LEAR	07	31	0035	S19	E45	08	3.5		A	AXX		1		3
		RAMY	08	09	1215	S12	W76	08	3.8		A	HAX	90	1	2	4
4268		LEAR	07	29	0123	S05	E79	08	4.0		B	BXO	10	3	1	3
4268		BOUL	07	29	1239	S08	E71	08	3.9		B	BXO	60	5	4	3
4268		RAMY	07	29	1440	S05	E71	08	3.9		A	AXX	30	2	2	2
4268	23781	MWIL	07	29	1500	S03	E71	08	3.9	4	(B)					
4268		HOLL	07	29	1506	S05	E71	08	3.9		B	BXO	20	7	5	4
4268		LEAR	07	30	0215	S05	E66	08	4.0		B	BXO	10	6	2	3
4268		RAMY	07	30	1140	S06	E60	08	4.0		B	CSO	90	6	3	3
4268		BOUL	07	30	1308	S06	E58	08	3.9		B	BXO	50	7	3	3
4268		HOLL	07	30	1415	S06	E60	08	4.1		B	CAO	30	5	3	4
4268	23781	MWIL	07	30	1500	S04	E59	08	4.0	4	(BY)					
4268		PALE	07	30	2016	S04	E57	08	4.1		B	CSO	60	5	3	3
4268		LEAR	07	31	0035	S04	E54	08	4.1		B	CAO	80	10	3	3
4268		ATHN	07	31	0820	S05	E50	08	4.1		B	CSO	100	5	3	2
4268		RAMY	07	31	1240	S05	E47	08	4.0		B	CAO	70	11	4	3
4268		HOLL	07	31	1420	S07	E49	08	4.3		B	CAO	40	8	8	4
4268		BOUL	07	31	1430	S05	E45	08	4.0		B	CSI	60	6	2	2
4268	23781	MWIL	07	31	1600	S04	E45	08	4.0	4	(BY)					
4268		PALE	07	31	1802	S06	E46	08	4.2		B	CAO	60	14	7	4
4268		ATHN	08	01	0700	S06	E38	08	4.1		B	CRO	40	3	3	2
4268		RAMY	08	01	1305	S05	E33	08	4.0		B	DAO	50	3	3	2
4268		BOUL	08	01	1355	S04	E31	08	3.9		B	CSI	850	3	2	3
4268	23781	MWIL	08	01	1515	S03	E32	08	4.0	4	(BP)					
4268		PALE	08	01	1809	S05	E31	08	4.1		B	CSO	30	8	3	3
4268		ATHN	08	02	0650	S05	E23	08	4.0		B	BXO	20	4	4	3
4268	23781	MWIL	08	02	1500	S03	E19	08	4.0	4	(AP)					
4268		HOLL	08	02	1712	S04	E17	08	4.0		B	BXO	10	5	4	3
4268		PALE	08	02	1810	S04	E18	08	4.1		B	BXO	10	4	4	4
4268		LEAR	08	03	0755	S03	E08	08	3.9		B	BXO	10	3	1	3
4268		BOUL	08	03	1330	S04	E07	08	4.1		A	HRX	20	1	2	4
4268	23781	MWIL	08	03	1530	S03	E05	08	4.0	3	(AP)					
4268		RAMY	08	03	1540	S03	E05	08	4.0		B	BXO	10	4	2	4
4268		HOLL	08	03	2120	S07	W01	08	3.8		A	AXX	10	2	1	3
4268		RAMY	08	04	1200	S04	W08	08	3.9		A	AXX	10	1	1	4
4268		RAMY	08	05	1235	S04	W19	08	4.1		B	BXO	40	9	3	3
4268		RAMY	08	06	1220	S03	W32	08	4.1		B	DRO	20	6	5	3
4268		HOLL	08	06	1405	S04	W35	08	4.0		B	BXO	30	5	4	3
4268		MANI	08	07	0004	S04	W38	08	4.2			BXO	10	3	4	3
4268		RAMY	08	07	1210	S03	W47	08	4.0		A	AXX	20	1	1	3
4267		RAMY	07	28	1345	S22	E80	08	3.7		A	HKX	100	1	2	3
4267	23777	MWIL	07	28	1445	S21	E80	08	3.8	2	(AP)					
4267		HOLL	07	28	1512	S21	E79	08	3.7		A	HSX	140	1	2	4
4267		LEAR	07	29	0123	S23	E79	08	4.1		A	HSX	30	1	2	3
4267		BOUL	07	29	1239	S21	E69	08	3.8		B	CSO	150	3	5	3
4267		RAMY	07	29	1440	S21	E66	08	3.6		B	CAO	60	2	6	2
4267	23777	MWIL	07	29	1500	S20	E69	08	3.9	4	(BP)					
4267		HOLL	07	29	1506	S20	E67	08	3.8		B	CAO	130	6	8	4
4267		LEAR	07	30	0215	S22	E63	08	3.9		B	CSO	100	4	6	3
4267		RAMY	07	30	1140	S22	E53	08	3.6		B	DSO	80	3	8	3
4267		BOUL	07	30	1308	S23	E54	08	3.7		B	CSO	90	3	8	3
4267		HOLL	07	30	1415	S21	E55	08	3.8		B	CSO	160	3	7	4
4267	23777	MWIL	07	30	1500	S20	E55	08	3.8	5	(BP)					
4267		PALE	07	30	2016	S20	E51	08	3.7		B	CSO	90	2	7	3
4267		LEAR	07	31	0035	S20	E54	08	4.2		B	CSO	110	2	8	3
4267		ATHN	07	31	0820	S21	E47	08	4.0		A	HHX	130	1	3	2
4267		RAMY	07	31	1240	S21	E46	08	4.1		B	CSO	130	6	7	3
4267		HOLL	07	31	1420	S20	E40	08	3.7		B	CSO	110	3	8	4

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	CMP Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4267		BOUL	07	31	1430	S21	E39	08	3.6		B	CHO	120	2	9	2
4267	23777	MWIL	07	31	1600	S20	E40	08	3.7	5	(BP)					
4267		PALE	07	31	1802	S19	E38	08	3.7		B	CSO	100	5	9	4
4267		ATHN	08	01	0700	S22	E34	08	3.9		A	HSX	70	1	2	2
4267		RAMY	08	01	1305	S23	E32	08	4.0		A	HAX	110	1	2	2
4267		BOUL	08	01	1355	S21	E29	08	3.8		B	CHO	120	2	3	3
4267	23777	MWIL	08	01	1515	S21	E28	08	3.8	5	(BP)					
4267		PALE	08	01	1809	S20	E27	08	3.8		B	CSO	90	3	6	3
4267		ATHN	08	02	0650	S22	E21	08	3.9		A	HSX	100	1	2	3
4267		BOUL	08	02	1238	S21	E18	08	3.9		A	HSX	40	1	1	2
4267	23777	MWIL	08	02	1500	S22	E17	08	3.9	5	(BF)					
4267		HOLL	08	02	1712	S22	E16	08	3.9		A	HSX	140	1	2	3
4267		PALE	08	02	1810	S21	E17	08	4.1		B	CSO	100	2	4	4
4267		ATHN	08	03	0615	S21	E09	08	4.0		A	HSX	50	1	2	4
4267		LEAR	08	03	0755	S22	E08	08	3.9		A	HSX	90	1	2	3
4267		BOUL	08	03	1330	S22	E05	08	3.9		A	HSX	80	1	3	4
4267	23777	MWIL	08	03	1530	S22	E04	08	4.0	5	(BF)					
4267		RAMY	08	03	1540	S20	E03	08	3.9		B	CAO	110	5	5	4
4267		HOLL	08	03	2120	S20	W00	08	3.9		B	CSO	80	3	4	3
4267		LEAR	08	04	0046	S22	W01	08	4.0		A	HSX	50	1	2	3
4267		ATHN	08	04	0700	S21	W03	08	4.1		A	HSX	90	2	2	4
4267		RAMY	08	04	1200	S23	W09	08	3.8		B	CAO	110	3	3	4
4267		BOUL	08	04	1312	S22	W10	08	3.8		B	CSO	110	3	3	3
4267	23777	MWIL	08	04	1445	S22	W08	08	4.0	4	(AP)					
4267		HOLL	08	04	1454	S22	W08	08	4.0		B	CSO	110	2	3	4
4267		PALE	08	04	1818	S22	W10	08	4.0		B	CSO	60	2	4	3
4267		LEAR	08	05	0129	S22	W16	08	3.8		A	HRO	60	2	3	3
4267		RAMY	08	05	1235	S22	W22	08	3.8		B	CAO	100	4	3	3
4267		BOUL	08	05	1346	S21	W22	08	3.9		B	CSO	90	2	2	3
4267	23777	MWIL	08	05	1500	S22	W21	08	4.0	3	(BP)					
4267		HOLL	08	05	1510	S21	W21	08	4.0		B	CSO	110	2	3	3
4267		PALE	08	05	1824	S22	W23	08	4.0		B	CSO	80	3	3	3
4267		LEAR	08	06	0130	S23	W28	08	3.9		A	HSO	110	1	2	3
4267		ATHN	08	06	0730	S21	W29	08	4.1		A	HSX	50	1	2	2
4267		RAMY	08	06	1220	S22	W36	08	3.7		B	CSO	100	5	5	3
4267		HOLL	08	06	1405	S22	W36	08	3.8		A	HSX	100	1	1	3
4267		BOUL	08	06	1630	S20	W36	08	3.9		A	CSX	120	1	2	2
4267	23777	MWIL	08	06	1630	S21	W35	08	4.0	4	(AP)					
4267		PALE	08	06	2324	S21	W39	08	4.0		B	CSO	100	2	3	3
4267		MANI	08	07	0004	S20	W41	08	3.9			CSO	80	2	2	3
4267		LEAR	08	07	0138	S22	W42	08	3.8		A	HSX	60	1	2	3
4267		ATHN	08	07	0700	S23	W39	08	4.3		B	CSO	70	3	3	3
4267		RAMY	08	07	1210	S23	W48	08	3.8		B	CAO	70	3	3	3
4267		BOUL	08	07	1330	S20	W48	08	3.9		A	HSX	60	1	2	4
4267		PALE	08	07	1735	S22	W50	08	3.9		A	HSX	70	1	2	4
4267		LEAR	08	08	0023	S22	W54	08	3.9		A	HSX	40	1	2	3
4267		ATHN	08	08	0630	S21	W56	08	4.0		A	HSX	60	1	2	3
4267		HOLL	08	08	1410	S23	W62	08	3.8		A	HSX	30	1	1	4
4267		BOUL	08	08	1440	S21	W61	08	3.9		A	HSX	70	1	2	4
4267	23777	MWIL	08	08	1500	S23	W62	08	3.8	3	(AP)					
4267		LEAR	08	09	0051	S22	W67	08	3.9		A	HSX	50	4	2	3
4267		ATHN	08	09	0600	S22	W69	08	3.9		A	HSX	60	1	2	3
4267		BOUL	08	09	1355	S21	W78	08	3.6		A	HSX	60	1	1	3
4267		HOLL	08	09	1430	S24	W77	08	3.7		A	HAX	20	1	1	4
4267		PALE	08	09	1735	S23	W79	08	3.6		A	HSX	50	1	2	3
4267		LEAR	08	10	0030	S22	W79	08	3.9		A	HSX	50	1	2	3
0001	23782	MWIL	07	30	1500	S16	E61	08	4.3	2	(B)					
0001	23782	MWIL	07	31	1600	S13	E46	08	4.1	3	(AP)					
		BOUL	08	04	1312	S12	W05	08	4.2		A	AXX	10	2	1	3
4273		RAMY	08	05	1235	S19	W18	08	4.2		B	BXO	20	4	2	3
4273		RAMY	08	06	1220	S20	W31	08	4.1		B	BXO	10	2	2	3
		PALE	07	28	1800	S21	E85	08	4.3		A	HSX	90	1	2	3
0002		BOUL	08	04	1312	S17	W02	08	4.4		A	AXX	10	2	1	3
0002		HOLL	08	04	1454	S18	W02	08	4.5		A	AXX	10	2	2	4
0002		PALE	08	04	1818	S17	W03	08	4.5		B	BXO	10	3	3	3
4271	23783	MWIL	07	30	1500	S07	E66	08	4.6	3	(AP)					

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hem!)	Spot Count	Long. Extent (Deg)	Qual
4271		LEAR	07	31	0035	S10	E61	08	4.6		A	AXX		1		3
4271		RAMY	07	31	1240	S10	E54	08	4.6		A	AXX	20	1	1	3
4271		BOUL	07	31	1430	S11	E51	08	4.4		A	AXX	20	1	1	2
4271	23783	MWIL	07	31	1600	S08	E51	08	4.5	3	(B)					
4271		ATHN	08	01	0700	S10	E44	08	4.6		A	AXX	10	1	1	2
4271		RAMY	08	01	1305	S10	E40	08	4.6		A	AXX	10	1	1	2
4271		BOUL	08	01	1355	S09	E38	08	4.4		A	AXX	10	1	1	3
4271	23783	MWIL	08	01	1515	S10	E37	08	4.4	4	(BP)					
4271		PALE	08	01	1809	S09	E38	08	4.6		A	AXX	10	1	1	3
4271		BOUL	08	02	1238	S13	E18	08	3.9		A	AXX	10	1	1	2
4271	23783	MWIL	08	02	1500	S12	E21	08	4.2	3	(AF)					
4271		HOLL	08	02	1712	S11	E22	08	4.4		B	BXO		3	4	3
4271		PALE	08	02	1810	S11	E20	08	4.3		B	BXO	10	2	4	4
4271	23787	MWIL	08	03	1530	S11	E15	08	4.8	3	(AF)					
4271		RAMY	08	03	1540	S12	E15	08	4.8		B	BXO	10	2	2	4
4271		ATHN	08	04	0700	S10	E02	08	4.4		B	BXO	10	3	1	4
4271		RAMY	08	04	1200	S11	W04	08	4.2		B	BXO	10	5	2	4
4271		HOLL	08	04	1454	S11	W04	08	4.3		A	AXX	20	4	2	4
4271		RAMY	08	05	1235	S14	W18	08	4.2		B	BXO	30	8	6	3
4271		RAMY	08	06	1220	S13	W29	08	4.3		B	BXO	40	8	9	3
4271		HOLL	08	06	1405	S13	W32	08	4.2		B	BXO	10	2	3	3
4271		LEAR	08	07	0138	S09	W33	08	4.6		A	AXX		1		3
		LEAR	08	07	0138	N08	W26	08	5.1		B	BXO	10	2	1	3
		RAMY	08	03	1540	N13	E25	08	5.5		A	AXX	10	1	1	4
4274	23788	MWIL	08	04	1445	S17	E26	08	6.6	2	(AP)					
4274		HOLL	08	04	1454	S17	E27	08	6.7		A	AXX		1		4
4274		PALE	08	04	1818	S17	E25	08	6.7		A	AXX	10	2	1	3
4274		LEAR	08	05	0129	S18	E19	08	6.5		A	AXX	10	1	1	3
4274		RAMY	08	05	1235	S17	E13	08	6.5		B	BXO	20	5	3	3
4274		BOUL	08	05	1346	S17	E12	08	6.5		B	BXO	20	3	3	3
4274	23788	MWIL	08	05	1500	S16	E13	08	6.6	2	(B)					
4274		HOLL	08	05	1510	S17	E17	08	6.9		B	CAO	10	2	4	3
4274		PALE	08	05	1824	S17	E13	08	6.8		B	BXO	10	3	4	3
4274		LEAR	08	06	0130	S17	E07	08	6.6		B	BXO	10	2	4	3
4274		RAMY	08	06	1220	S18	E01	08	6.6		B	BXO	10	2	2	3
4274		HOLL	08	06	1405	S18	E01	08	6.7		A	HRX	10	1		3
4274	23788	MWIL	08	06	1630	S18	W01	08	6.6	2	(B)					
4274		PALE	08	06	2324	S18	W03	08	6.7		B	CRO	30	5	5	3
4274		MANI	08	07	0004	S18	W05	08	6.6			CRO	40	5	4	3
4274		LEAR	08	07	0138	S17	W06	08	6.6		B	BXO	30	8	4	3
4274		ATHN	08	07	0700	S19	W04	08	7.0		A	HSX	30	1	2	3
4274		RAMY	08	07	1210	S17	W13	08	6.5		B	CAO	20	4	6	3
4274		BOUL	08	07	1330	S15	W12	08	6.7		B	BXO	20	3	6	4
4274		PALE	08	07	1735	S18	W15	08	6.6		B	BXO	20	7	7	4
4274		LEAR	08	08	0023	S18	W18	08	6.6		B	CSO	30	9	7	3
4274		ATHN	08	08	0630	S14	W21	08	6.7		B	BXO	30	4	6	3
4274		HOLL	08	08	1410	S18	W27	08	6.5		B	BXO	10	5	7	4
4274		BOUL	08	08	1440	S15	W25	08	6.7		B	BXO	20	3	7	4
4274	23788	MWIL	08	08	1500	S18	W27	08	6.6	2	(B)					
4274		LEAR	08	09	0051	S16	W33	08	6.5		B	BXO	20	3	7	3
4274		RAMY	08	09	1215	S17	W44	08	6.2		B	BXO	20	4	5	4
4274		BOUL	08	10	1510	S16	W57	08	6.3		A	AXX		1		3
		LEAR	08	07	0138	S04	E05	08	7.4		B	BXO	10	2	1	3
		BOUL	08	02	1238	S14	E66	08	7.5		A	AXX	20	1	1	2
4272	23785	MWIL	08	01	1515	N04	E80	08	7.6	2	B					
4272		PALE	08	01	1809	N04	E80	08	7.7		A	HRX	20	1	1	3
4272	23785	MWIL	08	02	1500	N03	E67	08	7.6	4	(B)					
4272		HOLL	08	02	1712	N04	E65	08	7.6		B	CSO	30	3	5	3
4272		PALE	08	02	1810	N04	E66	08	7.7		B	CSO	30	4	7	4
4272		ATHN	08	03	0615	N02	E60	08	7.7		B	CRO	30	2	2	4
4272		LEAR	08	03	0755	N03	E57	08	7.6		A	AXX	10	1	1	3
4272		BOUL	08	03	1330	N03	E51	08	7.4		A	HSX	30	1	2	4
4272	23785	MWIL	08	03	1530	N03	E53	07	7.6	4	(AP)					
4272		RAMY	08	03	1540	N03	E53	08	7.6		B	CAO	30	3	3	4
4272		HOLL	08	03	2120	N04	E50	08	7.6		A	AXX	10	2		3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4272		LEAR	08	04	0046	N02	E48	08	7.6		A	HRX	30	1	1	3
4272		ATHN	08	04	0700	N02	E43	08	7.5		A	HRX	10	1	1	4
4272		RAMY	08	04	1200	N03	E40	08	7.5		B	CRO	30	3	4	4
4272	23785	MWIL	08	04	1445	N03	E40	08	7.6	3	(AP)					
4272		HOLL	08	04	1454	N03	E41	08	7.7		A	AXX	10	1	1	4
4272		PALE	08	04	1818	N03	E38	08	7.6		A	AXX		1		3
4272		LEAR	08	05	0129	N03	E35	08	7.7		A	AXX	10	1	1	3
4272		RAMY	08	05	1235	N02	E28	08	7.6		B	BXO	10	2	3	3
4272		RAMY	08	06	1220	N03	E15	08	7.6		B	BXO	20	3	2	3
4272		HOLL	08	06	1405	N02	E11	08	7.4		B	BXO	20	5	2	3
4272		PALE	08	06	2324	N03	E08	08	7.6		A	AXX	10	2	1	3
4272		MANI	08	07	0004	N03	E07	08	7.5			AXX		1	1	3
4272		LEAR	08	07	0138	N03	E06	08	7.5		A	AXX		1		3
4272		PALE	08	07	1735	N02	W02	08	7.6		A	AXX		1		4
		RAMY	08	06	1220	N02	E16	08	7.7		B	BXO	10	2	2	3
	23786	MWIL	08	02	1500	N06	E70	08	7.9	3	(B)					
		BOUL	08	04	1312	N01	E49	08	8.2		A	AXX		1		3
4276		RAMY	08	04	1200	N11	E56	08	8.7		B	CRO	20	4	3	4
4276		BOUL	08	04	1312	N09	E54	08	8.6		B	BXO	10	3	3	3
4276	23789	MWIL	08	04	1445	N12	E54	08	8.7	2	(B)					
4276		HOLL	08	04	1454	N13	E53	08	8.6		B	BXO	10	3	4	4
4276		PALE	08	04	1818	N13	E53	08	8.8		B	BXO	20	3	5	3
4276		LEAR	08	05	0129	N13	E49	08	8.8		B	BXX	10	3	4	3
4276		RAMY	08	05	1235	N12	E44	08	8.8		A	AXX	10	2	1	3
4276	23789	MWIL	08	05	1500	N12	E42	08	8.8	2	(BY)					
		BOUL	08	10	1510	S02	W23	08	8.9		A	AXX		1		3
4277		LEAR	08	06	0130	N05	E79	08	12.0		B	BXO	10	3	3	3
4277		PALE	08	06	2324	N07	E64	08	11.8		A	AXX	10	2	2	3
4277		MANI	08	07	0004	N06	E67	08	12.0			AXX	10	2	1	3
4277		LEAR	08	07	0138	N06	E63	08	11.8		A	AXX		1		3
4277		RAMY	08	07	1210	N05	E58	08	11.8		A	AXX	20	1	1	3
4277		PALE	08	07	1735	N07	E53	08	11.7		A	AXX		1		4
4277		LEAR	08	08	0023	N06	E49	08	11.7		B	BXO	20	2	3	3
4279		BOUL	08	09	1355	S09	E51	08	13.4		B	DAI	160	16	6	3
4279		LEAR	08	10	0030	S09	E47	08	13.5		B	EAI	310	43	11	3
4279		ATHN	08	10	0800	S08	E41	08	13.4		B	DAO	170	10	8	3
4279		RAMY	08	10	1245	S10	E40	08	13.5		B	DKO	370	49	9	4
4279		HOLL	08	10	1401	S08	E39	08	13.5		B	DSI	270	28	8	4
4279		BOUL	08	10	1510	S08	E37	08	13.4		B	DKI	150	26	7	3
4279		PALE	08	10	1737	S08	E37	08	13.5		B	DAI	190	35	7	3
4279		LEAR	08	11	0114	S09	E33	08	13.5		BD	EAI	270	39	14	3
4279		ATHN	08	11	0930	S09	E28	08	13.5		BG	EKI	240	25	12	3
4279		RAMY	08	11	1215	S10	E26	08	13.5		BG	EKO	330	43	14	3
4279		HOLL	08	11	1416	S09	E25	08	13.5		BG	EAI	190	36	14	3
4279		BOUL	08	11	1430	S10	E27	08	13.6		BG	DHI	280	33	15	4
4279		PALE	08	11	2215	S10	E22	08	13.6		BG	DSI	220	42	15	3
4279		LEAR	08	12	0057	S12	E18	08	13.4		BG	FAI	410	68	16	2
4279		ATHN	08	12	0600	S10	E18	08	13.6		BG	EKO	380	36	15	3
4279		RAMY	08	12	1310	S11	E11	08	13.4		BGD	EKO	270	35	11	4
4279		HOLL	08	12	1435	S08	E12	08	13.5		BG	EKO	260	61	14	3
4279		BOUL	08	12	1440	S10	E09	08	13.3		BG	DSI	150	23	6	4
4279		LEAR	08	13	0123	S09	E07	08	13.6		BG	EAI	260	34	12	2
4279		HOLL	08	13	1412	S12	W03	08	13.4		BG	EAI	210	37	14	4
4279		PALE	08	13	1745	S08	W05	08	13.4		BG	EAI	220	32	14	3
4279		LEAR	08	14	0205	S09	W09	08	13.4		BG	EAO	180	27	12	2
4279		ATHN	08	14	0800	S09	W13	08	13.4		BG	EAI	20	15	13	3
4279		BOUL	08	14	1425	S10	W14	08	13.6		B	DSI	170	11	8	3
4279		HOLL	08	14	1507	S11	W17	08	13.4		BG	EAI	180	19	14	2
4279		PALE	08	14	1800	S08	W18	08	13.4		BG	EAI	230	23	13	3
4279		LEAR	08	15	0045	S08	W22	08	13.4		BG	EKI	190	38	14	3
4279		ATHN	08	15	0717	S09	W26	08	13.4		BG	ESO	120	13	11	1
4279		RAMY	08	15	1200	S10	W28	08	13.4		BG	FKI	310	46	16	4
4279		HOLL	08	15	1518	S09	W32	08	13.2		BG	EAI	240	24	13	3
4279		BOUL	08	15	1631	S08	W31	08	13.4		BG	DAI	190	24	10	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4279		PALE	08	15	1800	S09	W33	08	13.3		BG	EAI	180	30	12	3
4279		LEAR	08	16	0040	S08	W37	08	13.3		BG	ESI	260	29	13	3
4279		ATHN	08	16	0800	S09	W39	08	13.4		B	DSO	160	7	10	1
4279		BOUL	08	16	1353	S07	W44	08	13.3		BG	EAI	170	27	15	3
4279		HOLL	08	16	1612	S07	W44	08	13.4		BG	EAI	230	22	15	3
4279		PALE	08	16	1942	S08	W47	08	13.3		BG	EAI	210	21	15	2
4279		LEAR	08	17	0110	S07	W49	08	13.4		BG	ESI	200	15	15	3
4279		ATHN	08	17	0600	S09	W50	08	13.5		BG	DAO	190	6	10	3
4279		BOUL	08	17	1313	S08	W55	08	13.4		B	EAI	180	13	14	3
4279		HOLL	08	17	1426	S07	W57	08	13.3		BG	FSO	200	19	16	4
4279		RAMY	08	17	1435	S08	W60	08	13.1		BG	FAO	160	11	16	2
4279		PALE	08	17	1742	S07	W60	08	13.2		BG	ESI	120	11	14	3
4279		ATHN	08	18	0615	S10	W70	08	13.0		BG	ESO	100	3	11	2
4279		RAMY	08	18	1135	S07	W68	08	13.4		BG	FAO	120	8	18	3
4279		BOUL	08	18	1326	S07	W66	08	13.6		B	BXO	80	9	10	3
4279		HOLL	08	18	1425	S07	W65	08	13.7		BG	BXO	30	9	9	3
4279		PALE	08	18	1807	S08	W71	08	13.4		B	BXO	30	5	13	3
4279		LEAR	08	19	0106	S10	W78	08	13.2		B	BXO		2	4	2
4279		ATHN	08	19	0605	S09	W80	08	13.2		A	HSX	80	1	9	3
4280		LEAR	08	10	0030	S02	E49	08	13.7		B	CSO	140	7	3	3
4280		ATHN	08	10	0800	S01	E43	08	13.5		B	CSO	110	2	3	3
4280		RAMY	08	10	1245	S02	E41	08	13.6		B	CSO	170	3	3	4
4280		HOLL	08	10	1401	S02	E41	08	13.6		B	CSO	130	3	3	4
4280		BOUL	08	10	1510	S02	E38	08	13.5		B	CSO	100	2	6	3
4280		PALE	08	10	1737	S02	E36	08	13.4		B	CSO	100	3	3	3
4280		LEAR	08	11	0114	S01	E32	08	13.4		A	HSX	110	1	2	3
4280		ATHN	08	11	0930	S02	E28	08	13.5		A	HSX	700	1	2	3
4280		RAMY	08	11	1215	S03	E27	08	13.5		B	CAO	80	3	3	3
4280		HOLL	08	11	1416	S02	E28	08	13.7		B	CAO	70	3	5	3
4280		BOUL	08	11	1430	S02	E24	08	13.4		A	HHX	110	1	3	4
4280		PALE	08	11	2215	S02	E21	08	13.5		A	HSX	100	1	2	3
4280		LEAR	08	12	0057	S03	E19	08	13.5		B	CSO	70	5	9	2
4280		ATHN	08	12	0600	S02	E18	08	13.6		A	HAX	70	1	2	3
4280		RAMY	08	12	1310	S02	E13	08	13.5		B	CAO	130	8	3	4
4280		HOLL	08	12	1435	S01	E10	08	13.4		A	HSX	160	1	2	3
4280		BOUL	08	12	1440	S02	E11	08	13.4		A	HHX	80	1	3	4
4280		LEAR	08	13	0123	S01	E05	08	13.4		A	HSX	70	1	2	2
4280		HOLL	08	13	1412	S02	W02	08	13.4		A	HSX	110	1	2	4
4280		PALE	08	13	1745	S01	W04	08	13.4		A	HSX	80	1	2	3
4280		LEAR	08	14	0205	S08	W03	08	13.9		A	HHX	90	1	3	2
4280		ATHN	08	14	0800	S01	W10	08	13.6		A	HSX	90	1	2	3
4280		BOUL	08	14	1425	S06	W14	08	13.6		A	HSX	60	1	2	3
4280		HOLL	08	14	1507	S01	W16	08	13.4		A	HSX	110	1	2	2
4280		PALE	08	14	1800	S01	W16	08	13.6		B	CSO	100	2	3	3
4280		LEAR	08	15	0045	S01	W21	08	13.5		A	HSX	70	1	2	3
4280		ATHN	08	15	0717	N01	W23	08	13.6		A	HSX	40	1	2	1
4280		RAMY	08	15	1200	S00	W26	08	13.6		B	CAO	90	3	4	4
4280		HOLL	08	15	1518	S02	W27	08	13.6		B	CSO	80	2	4	3
4280		BOUL	08	15	1631	S01	W28	08	13.6		A	HSX	70	1	1	3
4280		PALE	08	15	1800	S02	W29	08	13.6		B	CSO	80	2	4	3
4280		LEAR	08	16	0040	S01	W35	08	13.4		A	HSX	90	1	2	3
4280		ATHN	08	16	0800	S01	W37	08	13.6		A	HSX	40	1	1	1
4280		BOUL	08	16	1353	S01	W41	08	13.5		A	HSX	70	1	1	3
4280		HOLL	08	16	1612	S01	W43	08	13.5		A	HSX	70	1	2	3
4280		PALE	08	16	1942	S02	W46	08	13.4		A	HSX	80	1	2	2
4280		LEAR	08	17	0110	S01	W48	08	13.5		A	HSX	80	1	2	3
4280		ATHN	08	17	0600	S01	W48	08	13.7		A	HAX	60	1	2	3
4280		BOUL	08	17	1313	S02	W52	08	13.7		A	HSX	70	1	2	3
4280		HOLL	08	17	1426	S02	W54	08	13.6		A	HSX	60	1	2	4
4280		RAMY	08	17	1435	S02	W57	08	13.3		A	HAX	80	1	2	2
4280		PALE	08	17	1742	S02	W57	08	13.5		A	HSX	50	1	2	3
4280		ATHN	08	18	0615	S02	W60	08	13.8		A	HSX	60	1	2	2
4280		RAMY	08	18	1135	S02	W69	08	13.3		A	HAX	90	1	2	3
4280		BOUL	08	18	1326	S01	W68	08	13.5		A	HSX	40	1	2	3
4280		HOLL	08	18	1425	S02	W68	08	13.5		A	HSX	60	1	2	3
4280		PALE	08	18	1807	S03	W71	08	13.4		A	HSX	60	1	2	3
4280		LEAR	08	19	0106	S03	W75	08	13.4		A	HSX	20	1	2	2
4280		RAMY	08	19	1205	S02	W88	08	12.9		A	HAX	60	1	2	3
4280		HOLL	08	19	1412	S03	W83	08	13.4		A	HSX	70	1	2	3
4278		RAMY	08	07	1210	S05	E83	08	13.7		B	DAO	130	6	6	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

AUGUST 1983

NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Mo	Day	Time (UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4278		BOUL	08	07	1330	S05	E81	08	13.6		B	DAI	240	4	5	4
4278		PALE	08	07	1735	S06	E80	08	13.7		B	DAO	260	9	10	4
4278		LEAR	08	08	0023	S07	E78	08	13.9		B	EAI	510	22	12	3
4278		ATHN	08	08	0630	S05	E72	08	13.7		B	EAO	300	14	12	3
4278		HOLL	08	08	1410	S06	E70	08	13.8		BG	FAI	560	25	16	4
4278		BOUL	08	08	1440	S08	E70	08	13.9		B	FAI	730	21	16	4
4278	23790	MWIL	08	08	1500	S05	E68	08	13.7	4	(BY)					
4278		ATHN	08	09	0600	S09	E60	08	13.8		BG	FKI	720	19	17	3
4278		RAMY	08	09	1215	S08	E59	08	13.9		BG	FKI	710	76	20	4
4278		BOUL	08	09	1355	S05	E59	08	14.0		BG	FAO	500	33	19	3
4278		HOLL	08	09	1430	S06	E57	08	13.9		BD	FKI	940	54	17	4
4278		PALE	08	09	1735	S08	E56	08	13.9		BG	FKI	750	52	18	3
4278		LEAR	08	10	0030	S06	E55	08	14.1		B	EKI	530	22	13	3
4278		ATHN	08	10	0800	S05	E48	08	13.9		BG	FHI	490	16	16	3
4278		RAMY	08	10	1245	S07	E47	08	14.1		B	EKO	530	35	15	4
4278		HOLL	08	10	1401	S06	E47	08	14.1		BD	FAO	440	30	18	4
4278		BOUL	08	10	1510	S06	E44	08	13.9		BG	EKI	500	26	14	3
4278		PALE	08	10	1737	S06	E44	08	14.0		BG	FAI	460	40	16	3
4278	23790	MWIL	08	10	2130	S06	E38	08	13.7	5	(BP)					
4278		LEAR	08	11	0114	S06	E40	08	14.0		BD	FKI	390	25	16	3
4278		ATHN	08	11	0930	S07	E36	08	14.1		BD	EKI	370	15	14	3
4278		RAMY	08	11	1215	S07	E34	08	14.1		BG	FKO	440	35	18	3
4278		HOLL	08	11	1416	S07	E33	08	14.1		BG	FKO	300	28	17	3
4278		BOUL	08	11	1430	S07	E31	08	13.9		BD	EKI	400	25	16	4
4278	23790	MWIL	08	11	1500	S07	E27	08	13.6	5	(BP)					
4278		PALE	08	11	2215	S07	E29	08	14.1		BD	EKI	380	28	17	3
4278		LEAR	08	12	0057	S05	E23	08	13.8		BD	FAI	240	30	21	2
4278		ATHN	08	12	0600	S09	E25	08	14.1		BD	EKO	330	15	13	3
4278		RAMY	08	12	1310	S10	E20	08	14.1		BG	FKO	560	63	19	4
4278		HOLL	08	12	1435	S06	E18	08	14.0		BG	EAO	350	33	14	3
4278		BOUL	08	12	1440	S08	E15	08	13.7		BG	ESI	450	43	15	4
4278	23790	MWIL	08	12	1530	S06	E13	08	13.6	5	(BP)					
4278		LEAR	08	13	0123	S05	E12	08	14.0		B	ESI	130	22	15	2
4278		HOLL	08	13	1412	S06	E06	08	14.0		B	EAI	210	40	15	4
4278	23790	MWIL	08	13	1700	S06	W02	08	13.6	5	(BP)					
4278		PALE	08	13	1745	S06	E06	08	14.2		B	FSI	180	21	16	3
4278		LEAR	08	14	0205	S06	E02	08	14.2		B	FAO	100	18	17	2
4278		ATHN	08	14	0800	S06	W05	08	14.0		B	EAI	150	11	15	3
4278		BOUL	08	14	1425	S06	W08	08	14.0		B	CSI	180	27	14	3
4278		HOLL	08	14	1507	S06	W08	08	14.0		B	ESO	140	22	15	2
4278		PALE	08	14	1800	S06	W09	08	14.1		B	ESO	150	15	13	3
4278		ATHN	08	15	0717	S03	W18	08	14.0		B	DSO	90	12	4	1
4278		RAMY	08	15	1200	S06	W18	08	14.1		B	FAO	150	22	16	4
4278		HOLL	08	15	1518	S05	W21	08	14.1		B	CSO	110	14	15	3
4278		BOUL	08	15	1631	S05	W21	08	14.1		B	CSO	130	24	14	3
4278		PALE	08	15	1800	S05	W22	08	14.1		B	EAO	120	13	15	3
4278		LEAR	08	16	0040	S05	W27	08	14.0		B	CSO	80	9	14	3
4278		ATHN	08	16	0800	S04	W33	08	13.9		B	DSO	50	2	5	1
4278		ATHN	08	17	0600	S05	W41	08	14.2		BG	DAO	100	3	4	3
4278		ATHN	08	18	0615	S06	W62	08	13.6		A	BXO	20	3	4	2
0004		LEAR	08	09	0051	S07	E72	08	14.4		BG	DAO	1230	40	20	3
0004	23791	MWIL	08	10	2130	S07	E50	08	14.6	4	(AF)					
0004	23791	MWIL	08	11	1500	S07	E40	08	14.6	3	(AF)					
0004	23791	MWIL	08	12	1530	S07	E25	08	14.5	3	(AF)					
0004	23791	MWIL	08	13	1700	S07	E10	08	14.5	3	(BF)					
0004		LEAR	08	15	0045	S05	W06	08	14.6		B	CAO	100	14	16	3
0005		BOUL	08	09	1355	N15	E72	08	15.0		A	AXX		1		3
0005		RAMY	08	11	1215	N15	E49	08	15.2		A	AXX	10	1	1	3
0006		BOUL	08	14	1425	N22	E08	08	15.2		A	AXX		1	1	3
0006		PALE	08	14	1800	N22	E07	08	15.3		A	AXX		1		3
		LEAR	08	17	0113	N08	W13	08	16.1		B	CSO	40	7	3	3
4281		RAMY	08	10	1245	S04	E80	08	16.5		A	HRX	30	1	1	4
4281		HOLL	08	10	1401	S03	E80	08	16.6		A	AXX	10	2	2	4
4281		BOUL	08	10	1510	S04	E79	08	16.5		A	AXX	10	2	1	3
4281		PALE	08	10	1737	S04	E79	08	16.6		A	AXX	10	1	1	3
4281	23792	MWIL	08	10	2130	S02	E80	08	16.9	3	(AP)					

REGIONS OF SUNSPOT ACTIVITY
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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4281		LEAR	08	11	0114	S04	E74	08	16.6		A	HRX	10	1	1	3
4281		ATHN	08	11	0930	S05	E69	08	16.6		A	AXX	10	1	1	3
4281		RAMY	08	11	1215	S05	E68	08	16.6		A	HAX	30	1	1	3
4281		HOLL	08	11	1416	S03	E67	08	16.6		A	AXX		1	1	3
4281		BOUL	08	11	1430	S04	E65	08	16.5		A	AXX	10	1	1	4
4281	23792	MWIL	08	11	1500	S03	E66	08	16.6	3	(AP)					
4281		PALE	08	11	2215	S04	E63	08	16.6		A	AXX	10	1	1	3
4281		LEAR	08	12	0057	S05	E60	08	16.5		A	AXX	10	1	1	2
4281		ATHN	08	12	0600	S09	E58	08	16.6		A	HSX	30	1	2	3
4281		RAMY	08	12	1310	S05	E54	08	16.6		A	HAX	30	1	1	4
4281		HOLL	08	12	1435	S04	E53	08	16.6		A	AXX		1		3
4281		BOUL	08	12	1440	S04	E51	08	16.4		A	AXX	20	1	1	4
4281	23792	MWIL	08	12	1530	S03	E51	08	16.5	3	(AP)					
4281		LEAR	08	13	0123	S03	E47	08	16.6		A	AXX	10	1	1	2
4281		HOLL	08	13	1412	S04	E38	08	16.4		A	AXX	10	1		4
4281	23792	MWIL	08	13	1700	S04	E37	08	16.5	3	(AP)					
4281		PALE	08	13	1745	S04	E37	08	16.5		A	AXX		1		3
4281		LEAR	08	14	0205	S04	E33	08	16.6		A	AXX	10	1	1	2
4281		ATHN	08	14	0800	S04	E28	08	16.4		A	AXX	10	1		3
4281		BOUL	08	14	1425	S02	E23	08	16.3		A	AXX		1		3
4281		HOLL	08	14	1507	S04	E24	08	16.4		A	AXX	10	1		2
4281		PALE	08	14	1800	S04	E23	08	16.5		A	AXX	10	1	1	3
4281		LEAR	08	15	0045	S04	E18	08	16.4		A	AXX		1		3
4281		ATHN	08	15	0717	S03	E15	08	16.4		A	AXX	10	1	1	1
4281		RAMY	08	15	1200	S05	E21	08	17.1		B	BXO	10	5	3	4
4281		HOLL	08	15	1518	S03	E12	08	16.5		A	AXX		1		3
4281		BOUL	08	15	1631	S04	E10	08	16.4		A	AXX		1		3
4281		PALE	08	15	1800	S04	E10	08	16.5		A	AXX	10	2	2	3
4281		LEAR	08	16	0040	S03	E06	08	16.5		A	AXX		1		3
4281		HOLL	08	16	1612	S05	E05	08	17.0		A	AXX		1	1	3
4281		PALE	08	16	1942	S06	W02	08	16.7		B	BXO	10	2	3	2
4281		HOLL	08	17	1426	S06	W07	08	17.1		A	AXX	10	2	2	4
4281		RAMY	08	18	1135	S05	W22	08	16.8		B	BXO	20	3	3	3
4281		HOLL	08	18	1425	S05	W22	08	17.0		B	BXO	10	2	3	3
4281		PALE	08	18	1807	S05	W25	08	16.9		B	BXO	10	2	3	3
4281		LEAR	08	19	0106	S05	W29	08	16.9		B	BXO	10	6	3	2
4281		RAMY	08	19	1205	S06	W35	08	16.9		A	AXX	10	1	1	3
4282		HOLL	08	10	1401	N08	E86	08	17.0		A	HHX	90	1	3	4
4282		PALE	08	10	1737	N08	E84	08	17.0		A	HSX	50	1	2	3
4282		LEAR	08	11	0114	N07	E78	08	16.9		A	HSX	70	1	2	3
4282		ATHN	08	11	0930	N06	E76	08	17.1		A	HRX	40	1	2	3
4282		RAMY	08	11	1215	N06	E74	08	17.0		A	HSX	60	1	2	3
4282		HOLL	08	11	1416	N07	E73	08	17.1		A	HSX	90	1	2	3
4282		BOUL	08	11	1430	N07	E71	08	16.9		A	HSX	80	1	2	4
4282	23794	MWIL	08	11	1500	N07	E71	08	16.9	3	(AP)					
4282		PALE	08	11	2215	N08	E68	08	17.0		A	HSX	50	1	2	3
4282		LEAR	08	12	0057	N06	E65	08	16.9		A	HSX	20	1	2	2
4282		ATHN	08	12	0600	N07	E63	08	17.0		A	HKX	130	1	3	3
4282		RAMY	08	12	1310	N05	E60	08	17.0		A	HAX	80	1	2	4
4282		HOLL	08	12	1435	N07	E59	08	17.0		A	HSX	70	1	2	3
4282		BOUL	08	12	1440	N08	E57	08	16.9		A	HSX	70	1	2	4
4282	23794	MWIL	08	12	1530	N07	E58	08	17.0	4	(AP)					
4282		LEAR	08	13	0123	N07	E51	08	16.9		A	HSX	70	1	2	2
4282		HOLL	08	13	1412	N07	E46	08	17.0		A	HSX	70	1	2	4
4282	23794	MWIL	08	13	1700	N07	E44	08	17.0	4	(AP)					
4282		PALE	08	13	1745	N07	E44	08	17.0		A	HSX	30	1	2	3
4282		LEAR	08	14	0205	N07	E38	08	16.9		A	HSX	40	1	2	2
4282		ATHN	08	14	0800	N07	E37	08	17.1		A	HSX	20	1	1	3
4282		BOUL	08	14	1425	N09	E31	08	16.9		B	CSO	30	2	3	3
4282		HOLL	08	14	1507	N08	E33	08	17.1		B	CSO	60	2	3	2
4282		PALE	08	14	1800	N07	E33	08	17.2		B	CSO	40	4	5	3
4282		LEAR	08	15	0045	N08	E28	08	17.1		B	CRO	50	6	4	3
4282		ATHN	08	15	0717	N06	E24	08	17.1		B	CSO	50	4	3	1
4282		RAMY	08	15	1200	N08	E22	08	17.1		B	DAO	50	9	4	4
4282		HOLL	08	15	1518	N08	E21	08	17.2		B	CSO	60	4	4	3
4282		BOUL	08	15	1631	N08	E19	08	17.1		B	CSO	30	5	4	3
4282		PALE	08	15	1800	N08	E19	08	17.2		B	CSO	60	6	4	3
4282		LEAR	08	16	0040	N07	E14	08	17.1		A	HSX	30	1	1	3
4282		ATHN	08	16	0800	N07	E10	08	17.1		A	HSX	20	1	1	1
4282		BOUL	08	16	1353	N08	E05	08	17.0		B	CSO	40	6	7	3

REGIONS OF SUNSPOT ACTIVITY
(ORDERED BY CENTRAL MERIDIAN PASSAGE DATE)

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4282		HOLL	08	16	1612	N07	E03	08	16.9		B	CSO	40	6	7	3
4282		PALE	08	16	1942	N07	E02	08	17.0		A	HSX	30	2	2	2
4282		ATHN	08	17	0600	N08	W02	08	17.1		A	HSX	20	1	1	3
4282		BOUL	08	17	1313	N05	W08	08	17.0		B	BXO	20	4	2	3
4282		HOLL	08	17	1426	N06	W06	08	17.2		B	CSO	20	5	3	4
4282		RAMY	08	17	1435	N08	W07	08	17.1		B	CAO	40	4	3	2
4282		PALE	08	17	1742	N06	W09	08	17.1		A	HSX	10	1	1	3
4282		ATHN	08	18	0615	N08	W14	08	17.2		B	CSO	30	2	2	2
4282		RAMY	08	18	1135	N07	W19	08	17.1		B	DAO	60	13	4	3
4282		BOUL	08	18	1326	N08	W21	08	17.0		B	CSO	40	9	5	3
4282		HOLL	08	18	1425	N06	W21	08	17.0		B	BXO	10	6	4	3
4282		PALE	08	18	1807	N07	W22	08	17.1		B	CRO	40	12	5	3
4282		LEAR	08	19	0106	N07	W27	08	17.0		B	CSO	40	6	3	2
4282		ATHN	08	19	0605	N08	W29	08	17.1		B	CRO	30	4	4	3
4282		RAMY	08	19	1205	N08	W33	08	17.0		B	CAO	20	8	4	3
4282		HOLL	08	19	1412	N07	W34	08	17.0		B	BXO	10	6	5	3
4282		BOUL	08	19	1450	N08	W35	08	17.0		B	BXO	20	4	3	2
4282		PALE	08	19	1840	N07	W37	08	17.0		B	BXO	20	4	4	3
4282		LEAR	08	20	0240	N07	W42	08	17.0		B	BXO	20	8	4	2
4282		HOLL	08	20	1408	N07	W48	08	17.0		B	BXO	10	4	4	3
4282		BOUL	08	20	1415	N07	W48	08	17.0		A	AXX	10	1	1	2
4282		RAMY	08	20	1440	N09	W49	08	16.9		B	CRO	30	6	3	3
4282		PALE	08	20	1750	N08	W51	08	16.9		B	CSO	30	4	4	4
4282		MANI	08	20	2331	N07	W56	08	16.8			HSX	40	2	2	2
4282		LEAR	08	21	0053	N07	W57	08	16.8		A	HRX	10	1	2	2
4282		ATHN	08	21	0700	N08	W59	08	16.9		A	AXX	10	1	1	3
4282		HOLL	08	21	1407	N07	W65	08	16.7		A	AXX		3	1	3
4282	23794	MWIL	08	21	1500	N07	W65	08	16.8	4	(AP)					
4282		PALE	08	21	1922	N06	W69	08	16.6		A	AXX	10	2	2	4
4282		LEAR	08	22	0100	N07	W72	08	16.6		A	AXX		1		2
4283	23793	MWIL	08	10	2130	S17	E88	08	17.6	2	AP					
4283		LEAR	08	11	0114	S20	E76	08	16.9		A	AXX		1		3
4283		RAMY	08	11	1215	S21	E71	08	17.0		B	DAO	60	2	9	3
4283		HOLL	08	11	1416	S18	E71	08	17.0		B	BXO	10	2	10	3
4283		BOUL	08	11	1430	S18	E73	08	17.2		B	AXX	20	2	4	4
4283	23793	MWIL	08	11	1500	S18	E70	08	17.0	3	(B)					
4283		PALE	08	11	2215	S19	E67	08	17.0		B	BXO	20	2	5	3
4283		LEAR	08	12	0057	S21	E64	08	16.9		B	BXO	10	2	4	2
4283		RAMY	08	12	1310	S22	E59	08	17.1		B	DAO	40	4	9	4
4283		HOLL	08	12	1435	S19	E59	08	17.1		B	BXO	20	7	5	3
4283		BOUL	08	12	1440	S20	E59	08	17.1		B	BXO	50	6	6	4
4283	23793	MWIL	08	12	1530	S17	E56	08	16.9	3	(B)					
4283		LEAR	08	13	0123	S19	E49	08	16.8		A	BXO	10	2	2	2
4283		HOLL	08	13	1412	S18	E45	08	17.0		B	BXO	10	12	10	4
4283		PALE	08	13	1745	S18	E44	08	17.1		B*	BXO	20	6	7	3
4283		LEAR	08	14	0205	S20	E37	08	16.9		B	BXO	10	2	3	2
4283		BOUL	08	14	1425	S19	E29	08	16.8		B	BXO	10	2	2	3
4283		HOLL	08	14	1507	S20	E30	08	16.9		B	BXO	10	3	3	2
4283		PALE	08	14	1800	S18	E28	08	16.9		B	BXO	10	3	3	3
4283		LEAR	08	15	0045	S19	E24	08	16.9		A	AXX		1	1	3
4283		RAMY	08	15	1200	S21	E21	08	17.1		B	CRO	20	5	6	4
4283		HOLL	08	15	1518	S20	E18	08	17.0		B	BXO	10	3	4	3
4283		BOUL	08	15	1631	S19	E15	08	16.8		A	AXX	10	1	1	3
4283		PALE	08	15	1800	S20	E17	08	17.1		B	BXO	10	2	3	3
4283		LEAR	08	16	0040	S20	E16	08	17.3		B	BXO	10	5	4	3
4283		BOUL	08	16	1353	S19	E08	08	17.2		B	BXO	20	8	5	3
4283		HOLL	08	16	1612	S20	E07	08	17.2		B	BXO	20	5	4	3
4283		PALE	08	16	1942	S20	E04	08	17.1		B	BXO	20	4	3	2
4283		LEAR	08	17	0110	S21	E02	08	17.2		A	AXX		2	2	3
4283		RAMY	08	18	1135	S21	W18	08	17.1		B	BXO	20	6	2	3
4283		BOUL	08	18	1326	S20	W18	08	17.2		A	AXX	10	1	1	3
4283		HOLL	08	18	1425	S22	W17	08	17.3		A	AXX		1		3
4283		PALE	08	18	1807	S22	W20	08	17.2		A	AXX	10	1	1	3
4287		RAMY	08	15	1200	S17	E34	08	18.1		A	AXX	10	1	1	4
4287		LEAR	08	16	0040	S18	E29	08	18.2		A	AXX		1		3
4287		BOUL	08	16	1353	S17	E19	08	18.0		A	AXX	10	1		3
4287		HOLL	08	16	1612	S17	E19	08	18.1		A	AXX		1		3
4287		PALE	08	16	1942	S18	E17	08	18.1		A	AXX		1		2
4287		LEAR	08	17	0110	S17	E14	08	18.1		A	AXX		1		3

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4287		HOLL	08	17	1426	S18	E17	08	18.9		A	AXX	10	3	2	4
4284		RAMY	08	12	1310	N17	E80	08	18.6		A	HAX	40	1	1	4
4284		HOLL	08	12	1435	N18	E82	08	18.9		A	HSX	10	1	2	3
4284		BOUL	08	12	1440	N19	E79	08	18.6		A	HSX	50	1	1	4
4284	23795	MWIL	08	12	1530	N20	E78	08	18.6	3	(AP)					
4284		LEAR	08	13	0123	N18	E71	08	18.5		A	HSX	20	1	1	2
4284		HOLL	08	13	1412	N18	E66	08	18.6		A	HSX	60	1	2	4
4284	23795	MWIL	08	13	1700	N19	E65	08	18.7	4	(AP)					
4284		PALE	08	13	1745	N20	E65	08	18.7		A	HSX	30	1	2	3
4284		LEAR	08	14	0205	N18	E65	08	19.0		B	CSO	110	5	2	2
4284		ATHN	08	14	0800	N18	E57	08	18.7		A	HSX	20	1	1	3
4284		BOUL	08	14	1425	N19	E52	08	18.6		A	HSX	20	1	2	3
4284		HOLL	08	14	1507	N19	E53	08	18.7		A	HSX	60	1	2	2
4284		PALE	08	14	1800	N19	E52	08	18.7		A	HSX	30	1	2	3
4284		LEAR	08	15	0045	N19	E47	08	18.6		A	HSX	30	1	1	3
4284		ATHN	08	15	0717	N18	E43	08	18.6		A	HSX	70	1	2	1
4284		RAMY	08	15	1200	N19	E42	08	18.7		A	HAX	40	1	2	4
4284		HOLL	08	15	1518	N21	E41	08	18.8		B	CSO	60	2	4	3
4284		BOUL	08	15	1631	N20	E39	08	18.7		B	CSO	40	3	4	3
4284		PALE	08	15	1800	N20	E39	08	18.7		B	CSO	70	2	4	3
4284		LEAR	08	16	0040	N19	E35	08	18.7		A	HSX	30	1	1	3
4284		ATHN	08	16	0800	N19	E30	08	18.6		A	HSX	20	1	1	1
4284		BOUL	08	16	1353	N20	E30	08	18.9		B	CSO	40	4	10	3
4284		HOLL	08	16	1612	N19	E26	08	18.7		A	HSX	30	1	1	3
4284		PALE	08	16	1942	N19	E24	08	18.7		A	HSX	40	1	1	2
4284		ATHN	08	17	0600	N20	E18	08	18.6		A	HSX	20	1	1	3
4284		BOUL	08	17	1313	N19	E18	08	18.9		B	CSO	40	6	11	3
4284		HOLL	08	17	1426	N18	E14	08	18.7		A	HSX	40	1	2	4
4284		RAMY	08	17	1435	N20	E16	08	18.8		B	CAO	40	4	5	2
4284		PALE	08	17	1742	N19	E13	08	18.7		B	CSO	20	2	3	3
4284		ATHN	08	18	0615	N19	E05	08	18.6		B	CSO	30	2	3	2
4284		RAMY	08	18	1135	N19	E02	08	18.6		A	HAX	20	1	1	3
4284		BOUL	08	18	1326	N19	E01	08	18.6		A	HSX	20	1	2	3
4284		PALE	08	18	1807	N19	W01	08	18.7		B	CSO	30	2	3	3
4284		LEAR	08	19	0106	N18	W06	08	18.6		A	HSX	20	1	1	2
4284		RAMY	08	19	1205	N18	W09	08	18.8		B	CAO	20	13	4	3
4284		HOLL	08	19	1412	N18	W08	08	19.0		B	CRO	20	10	9	3
4284		BOUL	08	19	1450	N18	W12	08	18.7		B	CRO	20	2	2	2
4284		PALE	08	19	1840	N18	W13	08	18.8		B	CAO	20	6	4	3
4284		LEAR	08	20	0240	N18	W20	08	18.6		A	HRX	10	1	1	2
4284		HOLL	08	20	1408	N18	W26	08	18.6		A	AXX	10	1		3
4284		BOUL	08	20	1415	N17	W25	08	18.7		A	AXX	10	1	1	2
4284		RAMY	08	20	1440	N20	W28	08	18.5		B	CRO	20	5	6	3
4284		PALE	08	20	1750	N19	W30	08	18.5		B	BXO	10	2	5	4
4284		MANI	08	20	2331	N18	W32	08	18.5			HRX	20	1	1	2
4284		LEAR	08	21	0053	N18	W33	08	18.5		A	AXX	10	1	1	2
4284		ATHN	08	21	0700	N19	W34	08	18.7		A	AXX	10	1	1	3
4284		HOLL	08	21	1407	N18	W40	08	18.5		A	AXX	10	1		3
4284	23795	MWIL	08	21	1500	N20	W35	08	18.9	4	(B)					
4284		PALE	08	21	1922	N23	W45	08	18.3		A	AXX	10	1	1	4
4284		LEAR	08	22	0100	N20	W37	08	19.2		B	BXO	10	2	1	2
4284		RAMY	08	22	1235	N21	W57	08	18.2		B	BXO	10	2	4	3
4284		HOLL	08	22	1422	N19	W56	08	18.3		B	BXO	20	5	4	3
4284	23802	MWIL	08	22	1430	N17	W57	08	18.3	3	(B)					
4284		PALE	08	22	1809	N20	W60	08	18.2		B	BXO	20	4	3	4
4284		ATHN	08	23	0615	N19	W70	08	17.9		A	AXX	30	1	1	2
4284		RAMY	08	23	1250	N19	W69	08	18.3		B	DAO	90	6	5	3
4284		BOUL	08	23	1309	N18	W65	08	18.6		B	BXO	30	7	6	2
4284	23802	MWIL	08	23	1500	N19	W69	08	18.4	4	(B)					
4284		HOLL	08	23	1526	N20	W71	08	18.2		B	CSO	30	9	8	3
4284		PALE	08	23	2010	N19	W73	08	18.3		B	CAO	60	6	9	3
4284		LEAR	08	24	0216	N19	W76	08	18.3		B	CSO	40	5	3	2
4284		RAMY	08	24	1243	N21	W81	08	18.3		A	HSX	60	1	2	3
4284	23802	MWIL	08	24	1500	N20	W80	08	18.5	3	(AF)					
4284		BOUL	08	24	1610	N21	W85	08	18.2		A	HSX	110	2	2	3
4284		PALE	08	24	1835	N20	W87	08	18.1		A	HSX	40	2	2	3
4284		LEAR	08	25	0040	N22	W85	08	18.5		A	HSX	20	1	1	3
4284		MANI	08	25	0158	N21	W85	08	18.6			HSX	280	1	1	2
0008	23796	MWIL	08	21	1500	S16	W36	08	18.9	3	(AP)					

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
0008		PALE	08	21	1922	S17	W40	08	18.8		A	AXX	10	2	2	4
4286		HOLL	08	15	1518	N19	E49	08	19.4		A	AXX	10	1		3
4286		PALE	08	15	1800	N19	E47	08	19.3		A	AXX	10	1		3
4286		HOLL	08	16	1612	N22	E33	08	19.2		B	BXO	20	4	4	3
4286		PALE	08	16	1942	N22	E33	08	19.4		A	AXX		1		2
4286		HOLL	08	17	1426	N21	E21	08	19.2		B	BXO	20	6	5	4
4286		RAMY	08	17	1435	N21	E23	08	19.4		B	BXO	10	2	3	2
4286		RAMY	08	18	1135	N21	E11	08	19.3		B	BXO	20	5	3	3
4286		PALE	08	18	1807	N19	E06	08	19.2		A	AXX	10	2	1	3
4286		PALE	08	19	1840	N20	W08	08	19.2		A	AXX		1		3
	23797	MWIL	08	21	1500	S07	W27	08	19.6	2	(AP)					
0009		HOLL	08	18	1425	N05	E19	08	20.0		B	CRO	20	5	9	3
0009		PALE	08	18	1807	N08	E15	08	19.9		B	BXO	20	3	3	3
0009		LEAR	08	19	0106	N08	E11	08	19.9		B	BXO		2	1	2
4290		HOLL	08	21	1407	S12	W03	08	21.4		B	BXO		2	3	3
4290	23798A	MWIL	08	21	1500	S11	W03	08	21.4	4	(B)					
4290		PALE	08	21	1922	S11	W06	08	21.4		B	CRO	20	5	3	4
4290		LEAR	08	22	0100	S12	W08	08	21.4		B	BXO	10	2	2	2
4290		RAMY	08	22	1235	S11	W16	08	21.3		B	CRO	10	4	3	3
4290		HOLL	08	22	1422	S11	W17	08	21.3		B	BXO	20	4	3	3
4290	23798A	MWIL	08	22	1430	S12	W15	08	21.5	3	(B)					
0010		RAMY	08	23	1250	S13	W13	08	22.6		B	BXO	10	2	1	3
0010	23798B	MWIL	08	23	1500	S13	W13	08	22.6	4	(AP)					
0010		HOLL	08	23	1526	S13	W14	08	22.6		A	AXX	10	2	1	3
0010		PALE	08	23	2010	S13	W16	08	22.6		A	AXX	20	4	2	3
4291		HOLL	08	21	1407	S17	E23	08	23.3		B	BXO		2	4	3
4291	23799	MWIL	08	21	1500	S17	E22	08	23.3	4	(B)					
4291		PALE	08	21	1922	S19	E20	08	23.3		B	BXO	20	3	3	4
4291		LEAR	08	22	0100	S18	E17	08	23.3		A	AXX		1		2
4291		RAMY	08	22	1235	S18	E11	08	23.4		B	CAO	10	4	3	3
4291		BOUL	08	22	1316	S18	E10	08	23.3		A	AXX	10	2	2	3
4291		HOLL	08	22	1422	S18	E11	08	23.4		B	BXO	20	2	3	3
4291	23799	MWIL	08	22	1430	S17	E12	08	23.5	4	(AF)					
4291		PALE	08	22	1809	S18	E09	08	23.4		A	AXX	10	1	1	4
4291		RAMY	08	23	1250	S18	W03	08	23.3		B	DAO	30	3	3	3
4291		BOUL	08	23	1309	S17	W03	08	23.3		B	BXO	10	4	5	2
4291	23799	MWIL	08	23	1500	S18	W04	08	23.3	4	(B)					
4291		HOLL	08	23	1526	S17	W04	08	23.3		B	BXO	10	2	3	3
4291		PALE	08	23	2010	S17	W06	08	23.4		B	BXO	20	3	3	3
4291		LEAR	08	24	0216	S17	W12	08	23.2		B	BXO		2	2	2
4291		RAMY	08	24	1243	S19	W15	08	23.4		A	AXX	10	2	2	3
4288		BOUL	08	17	1313	N12	E80	08	23.6		A	HSX	40	1	2	3
4288		HOLL	08	17	1426	N13	E86	08	24.1		A	HSX	70	3	2	4
4288		RAMY	08	17	1435	N14	E87	08	24.2		A	HAX	60	1	3	2
4288		PALE	08	17	1742	N14	E81	08	23.9		A	HSX	90	1	2	3
4288		ATHN	08	18	0615	N15	E75	08	23.9		A	HSX	60	1	2	2
4288		RAMY	08	18	1135	N13	E72	08	23.9		A	HAX	90	1	2	3
4288		BOUL	08	18	1326	N16	E71	08	23.9		A	HSX	60	1	2	3
4288		HOLL	08	18	1425	N14	E74	08	24.2		A	HSX	70	1	2	3
4288		PALE	08	18	1807	N14	E70	08	24.0		B	CSO	30	4	3	3
4288		LEAR	08	19	0106	N15	E66	08	24.0		A	HSX	40	1	2	2
4288		ATHN	08	19	0605	N14	E60	08	23.8		A	HSX	50	1	2	3
4288		RAMY	08	19	1205	N13	E65	08	24.4		B	CAO	50	10	10	3
4288		HOLL	08	19	1412	N15	E63	08	24.4		B	CAO	20	4	11	3
4288		BOUL	08	19	1450	N12	E57	08	23.9		A	HSX	20	1	1	2
4288		PALE	08	19	1840	N15	E61	08	24.4		B	CAO	40	8	10	3
4288		LEAR	08	20	0240	N14	E56	08	24.3		B	CRO	40	5	10	2
4288		HOLL	08	20	1408	N15	E50	08	24.4		B	ERO	50	6	12	3
4288		BOUL	08	20	1415	N13	E50	08	24.4		B	CSO	70	6	10	2
4288		RAMY	08	20	1440	N13	E50	08	24.4		B	EAO	100	11	11	3
4288		PALE	08	20	1750	N14	E51	08	24.6		B	EAO	70	8	15	4
4288		MANI	08	20	2331	N14	E44	08	24.3			ESO	110	8	13	2
4288		LEAR	08	21	0053	N14	E43	08	24.3		B	ESO	60	7	15	2
4288		ATHN	08	21	0700	N12	E42	08	24.5		B	DSO	50	3	7	3

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4288		HOLL	08	21	1407	N14	E40	08	24.6		B	DRO	50	6	8	3
4288	23800	MWIL	08	21	1500	N13	E40	08	24.6	4	(BY)					
4288		PALE	08	21	1922	N14	E37	08	24.6		B	DSO	40	7	7	4
4288		LEAR	08	22	0100	N14	E32	08	24.5		B	ESO	30	8	12	2
4288		ATHN	08	22	0700	N14	E30	08	24.6		B	ESO	130	5	13	3
4288		RAMY	08	22	1235	N14	E25	08	24.4		B	EAO	60	10	12	3
4288		BOUL	08	22	1316	N13	E24	08	24.4		B	BXO	20	6	13	3
4288		HOLL	08	22	1422	N14	E22	08	24.3		B	CRO	30	12	13	3
4288	23800	MWIL	08	22	1430	N15	E23	08	24.3	5	(B)					
4288		PALE	08	22	1809	N14	E21	08	24.3		B	BXO	30	13	13	4
4288		ATHN	08	23	0615	N12	E17	08	24.5		A	BXO	20	2	7	2
4288		RAMY	08	23	1250	N11	E12	08	24.4		BG	CAO	20	6	5	3
4288		BOUL	08	23	1309	N13	E07	08	24.1		B	BXO	10	3	5	2
4288	23803	MWIL	08	23	1500	N13	E08	08	24.2	4	(AP)					
4288		HOLL	08	23	1526	N14	E11	08	24.5		B	BXO	20	4	5	3
4288		PALE	08	23	2010	N14	E06	08	24.3		B	BXO	20	3	6	3
4288		LEAR	08	24	0216	N13	W02	08	23.9		A	AXX	10	2	1	2
4288		RAMY	08	24	1243	N12	W08	08	23.9		B	BXO	30	7	7	3
4288	23803	MWIL	08	24	1500	N13	W06	08	24.2	4	(B)					
4288		BOUL	08	24	1610	N13	W09	08	24.0		B	BXO	10	4	6	3
4288		PALE	08	24	1835	N15	W09	08	24.1		A	AXX	10	1		3
4288		LEAR	08	25	0040	N14	W13	08	24.0		B	CSO	20	2	2	3
4288		MANI	08	25	0158	N13	W12	08	24.2			BXO	10	3	3	2
4288		RAMY	08	25	1200	N14	W18	08	24.1		B	FAO	60	17	17	3
4288		BOUL	08	25	1338	N14	W10	08	24.8		A	AXX	10	1		2
4288		HOLL	08	25	1412	N16	W15	08	24.5		B	BXO		2	12	3
4288	23803	MWIL	08	25	1500	N14	W15	08	24.5	4	(BP)					
4288		PALE	08	25	1750	N14	W17	08	24.5		B	BXO	10	3	11	4
4288		MANI	08	26	0308	N13	W26	08	24.2			BXO	10	2	3	2
0012		RAMY	08	24	1243	S06	W07	08	24.0		A	AXX	10	2	1	3
0012	23805	MWIL	08	24	1500	S11	W04	08	24.3	3	(AP)					
0012		BOUL	08	24	1610	S11	W04	08	24.4		B	BXO	10	3	4	3
0012		PALE	08	24	1835	S11	W07	08	24.2		A	AXX		1		3
		RAMY	08	24	1243	N05	E05	08	24.9		BG	BXO	30	8	5	3
4297		HOLL	08	26	1403	S15	W21	08	25.0		B	BXO	10	3	3	4
4297		BOUL	08	26	1435	S20	W21	08	25.0		B	BXO	10	3	3	2
4297	23810A	MWIL	08	26	1500	S15	W21	08	25.0	4	(B)					
4297		PALE	08	26	1850	S15	W23	08	25.0		B	BXO	10	2	3	3
4297		LEAR	08	27	0029	S15	W26	08	25.1		B	BXO	10	2	3	2
4298		BOUL	08	27	1356	N01	W24	08	25.8		B	BXO	20	4	4	3
4298	23810B	MWIL	08	27	1900	S02	W25	08	25.9	4	(B)					
4298		LEAR	08	28	0027	S01	W29	08	25.9		B	BXO	10	3	3	3
4298		ATHN	08	28	0645	S01	W30	08	26.0		B	BXO	20	3	3	3
4298		BOUL	08	28	1415	S02	W38	08	25.8		B	BXO	20	3	4	2
4298	23810B	MWIL	08	28	1445	S02	W37	08	25.9	4	(B)					
4298		HOLL	08	28	1520	S02	W38	08	25.8		B	BXO	20	4	4	3
4298		PALE	08	28	1740	S02	W40	08	25.7		B	BXO	20	5	5	3
4298		LEAR	08	29	0014	S01	W45	08	25.6		A	AXX	10	2	1	3
4298	23810B	MWIL	08	29	1445	S01	W53	08	25.7	4	(B)					
4298		BOUL	08	29	1525	S01	W54	08	25.6		A	AXX	10	1		3
4298		PALE	08	29	2040	S02	W58	08	25.5		A	AXX	10	1		2
4298		LEAR	08	30	0045	N01	W60	08	25.6		A	AXX		1	1	2
4298		RAMY	08	30	1145	S00	W68	08	25.4		B	DAO	60	3	4	3
4298	23810B	MWIL	08	30	1500	S01	W67	08	25.6	3	(B)					
4298		BOUL	08	30	1551	N02	W67	08	25.7		B	BXO	10	2	3	2
4298		PALE	08	30	1940	S02	W68	08	25.7		A	AXX	10	1		3
4298		RAMY	08	31	1300	S01	W79	08	25.6		A	AXX	30	3	1	3
4298		HOLL	08	31	1400	S01	W78	08	25.8		A	AXX		2	1	4
4298	23810B	MWIL	08	31	1500	S02	W79	08	25.7	3	(AF)					
4298		PALE	08	31	1810	S02	W82	08	25.6		A	AXX	10	1		4
	23807	MWIL	08	25	1500	S13	E05	08	26.0	3	(AF)					
4289		RAMY	08	20	1440	S12	E79	08	26.6		A	AXX	10	1	1	3
4289		PALE	08	20	1750	S12	E78	08	26.6		A	AXX	10	1	1	4
4289		MANI	08	20	2331	S13	E76	08	26.7			AXX	20	1	1	2
4289		LEAR	08	21	0053	S13	E75	08	26.7		B	BXO	20	3	5	2

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4289		ATHN	08	21	0700	S13 E68	08	26.4		A	AXX	10	1	1	3
4289		HOLL	08	21	1407	S13 E68	08	26.7		B	BXO		2	5	3
4289	23801	MWIL	08	21	1500	S13 E67	08	26.7	3	(B)					
4289		PALE	08	21	1922	S13 E67	08	26.9		B	BXO	20	2	6	4
4289		LEAR	08	22	0100	S13 E62	08	26.7		B	BXO	10	2	5	2
4289		ATHN	08	22	0700	S10 E55	08	26.4		A	AXX	30	1	1	3
4289		RAMY	08	22	1235	S13 E56	08	26.7		B	DAO	40	4	6	3
4289		BOUL	08	22	1316	S13 E53	08	26.6		B	BXO	10	2	6	3
4289		HOLL	08	22	1422	S13 E56	08	26.8		B	BXO	10	2	6	3
4289	23801	MWIL	08	22	1430	S11 E55	08	26.7	4	(B)					
4289		PALE	08	22	1809	S13 E54	08	26.8		B	BXO	20	2	6	4
4289		ATHN	08	23	0615	S12 E40	08	26.3		A	AXX	10	1	1	2
4289		RAMY	08	23	1250	S12 E40	08	26.5		A	HSX	30	1	1	3
4289		BOUL	08	23	1309	S11 E39	08	26.5		A	AXX	10	1	1	2
4289	23801	MWIL	08	23	1500	S11 E39	08	26.6	4	(AP)					
4289		HOLL	08	23	1526	S12 E38	08	26.5		A	AXX	10	1		3
4289		PALE	08	23	2010	S12 E37	08	26.6		A	AXX	10	1		3
4289		LEAR	08	24	0216	S12 E33	08	26.6		B	CRO	10	5	3	2
4289		ATHN	08	24	0945	S12 E27	08	26.4		B	BRO	30	2	3	3
4289		RAMY	08	24	1243	S12 E28	08	26.6		B	DAO	40	7	3	3
4289	23801	MWIL	08	24	1500	S11 E26	08	26.6	4	(BP)					
4289		BOUL	08	24	1610	S11 E23	08	26.4		B	BXI	20	8	4	3
4289		PALE	08	24	1835	S10 E24	08	26.6		B	BXO	30	6	4	3
4289		LEAR	08	25	0040	S12 E21	08	26.6		B	CRO	30	10	4	3
4289		MANI	08	25	0158	S12 E20	08	26.6			CRO	40	11	5	2
4289		ATHN	08	25	0750	S11 E15	08	26.5		B	CSO	30	3	3	2
4289		RAMY	08	25	1200	S13 E13	08	26.5		B	DAO	40	17	4	3
4289		BOUL	08	25	1338	S11 E13	08	26.5		B	BXI	20	9	4	2
4289		HOLL	08	25	1412	S12 E13	08	26.6		B	BXI	20	12	4	3
4289	23801	MWIL	08	25	1500	S11 E13	08	26.6	4	(BP)					
4289		PALE	08	25	1750	S11 E12	08	26.6		B	BXI	20	9	4	4
4289		LEAR	08	26	0101	S12 E07	08	26.6		B	CSI	40	15	4	2
4289		MANI	08	26	0308	S12 E06	08	26.6			CRO	40	12	4	2
4289		ATHN	08	26	0730	S12 E03	08	26.5		B	DAO	40	7	4	3
4289		HOLL	08	26	1403	S12 W00	08	26.6		B	CRI	40	13	5	4
4289		BOUL	08	26	1435	S11 W02	08	26.5		B	CSO	70	13	4	2
4289	23801	MWIL	08	26	1500	S11 W01	08	26.5	4	(BY)					
4289		PALE	08	26	1850	S11 W03	08	26.6		B	CSO	50	12	4	3
4289		LEAR	08	27	0029	S12 W07	08	26.5		B	CSI	80	18	5	2
4289		ATHN	08	27	0800	S09 W10	08	26.6		B	DSO	90	9	5	3
4289		BOUL	08	27	1356	S08 W14	08	26.5		B	DAI	70	15	5	3
4289	23801	MWIL	08	27	1900	S11 W18	08	26.4	5	(B)					
4289		LEAR	08	28	0027	S11 W20	08	26.5		B	DAO	70	11	6	3
4289		ATHN	08	28	0645	S11 W22	08	26.6		B	DAO	80	12	7	3
4289		BOUL	08	28	1415	S11 W26	08	26.6		B	CRO	40	6	6	2
4289	23801	MWIL	08	28	1445	S12 W27	08	26.6	4	(B)					
4289		HOLL	08	28	1520	S11 W28	08	26.5		B	BXO	60	8	7	3
4289		RAMY	08	28	1705	S11 W29	08	26.5		B	DAO	50	7	6	1
4289		PALE	08	28	1740	S11 W30	08	26.5		B	CRO	50	8	7	3
4289		LEAR	08	29	0014	S11 W32	08	26.6		B	CRO	30	11	6	3
4289		MANI	08	29	0555	S12 W33	08	26.8			CSO	60	12	6	3
4289		ATHN	08	29	0700	S11 W33	08	26.8		B	BXO	20	3	4	3
4289	23801	MWIL	08	29	1445	S12 W41	08	26.5	3	(B)					
4289		BOUL	08	29	1525	S11 W43	08	26.4		B	BXO	10	2	4	3
4289		LEAR	08	30	0045	S11 W48	08	26.4		B	BXO	10	2	4	2
4289		RAMY	08	30	1145	S11 W53	08	26.5		B	CAO	40	3	5	3
4289		HOLL	08	30	1424	S11 W57	08	26.3		B	BXO	10	5	3	4
4289	23801	MWIL	08	30	1500	S12 W55	08	26.5	3	(BP)					
4289		PALE	08	30	1940	S12 W61	08	26.2		B	BXO	10	2	1	3
4289		PALE	08	31	1810	S12 W74	08	26.2		A	AXX	10	1	1	4
		LEAR	08	27	0029	S04 E05	08	27.4		A	AXO		2	2	2
4302		HOLL	08	31	1400	S07 W52	08	27.7		A	AXX		1		4
4302	23817	MWIL	08	31	1500	S08 W52	08	27.7	3	(AF)					
4302		PALE	08	31	1810	S08 W56	08	27.6		A	AXX	10	1		4
4302		LEAR	09	01	0015	S08 W58	08	27.7		B	DSO	210	10	4	3
4302		ATHN	09	01	0600	S11 W60	08	27.7		B	DKO	180	1	6	1
4302		RAMY	09	01	1240	S07 W68	08	27.4		B	DAO	170	6	5	3
4302		BOUL	09	01	1430	S06 W67	08	27.6		B	DSO	70	2	5	3
4302	23817	MWIL	09	01	1500	S08 W68	08	27.5	5	(B)					

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NOAA/ USAF Region	Mt Wilson Region	Sta	Observation Time Mo	Day	(UT)	Lat	CMD	CMP Mo	Day	Max H	Mag Class	Spot Class	Corrected Area (10-6 Hemi)	Spot Count	Long. Extent (Deg)	Qual
4302		HOLL	09	01	1633	S08	W67	08	27.7		B	DSO	260	6	8	3
4302		PALE	09	01	1800	S08	W69	08	27.6		B	DSO	190	3	7	3
4302		LEAR	09	02	0137	S08	W75	08	27.4		B	DHO	340	7	10	3
4302		MANI	09	02	0145	S09	W75	08	27.4			DSO	420	9	10	3
4302		ATHN	09	02	0630	S08	W77	08	27.5		B	DSO	160	6	7	3
4302		BOUL	09	02	1438	S06	W76	08	27.9		B	DSO	90	3	4	3
4302		HOLL	09	02	1504	S08	W78	08	27.8		B	DSO	360	4	10	4
4302	23817	MWIL	09	02	1530	S08	W83	08	27.4	4	(AF)					
4302		RAMY	09	02	1540	S07	W82	08	27.5		B	DAO	250	3	7	2
4302		PALE	09	02	1804	S08	W87	08	27.2		A	HSX	110	1	3	4
	23819	MWIL	09	01	1500	S07	W51	08	28.8	2	(AP)					
4299		LEAR	08	28	0027	S08	E12	08	28.9		B	BXO	10	4	4	3
4299		BOUL	08	28	1415	S08	E03	08	28.8		A	AXX	10	1	1	2
4299	23812	MWIL	08	28	1445	S07	E04	08	28.9	3	(AP)					
4299	23812	MWIL	08	29	1445	S08	W10	08	28.9	3	(AP)					
4299		BOUL	08	29	1525	S08	W12	08	28.7		A	AXX	10	2	1	3
4299		LEAR	08	30	0045	S08	W18	08	28.7		B	BXO	10	2	1	2
	23808	MWIL	08	25	1500	S07	E45	08	29.0	3	(AP)					
4296		LEAR	08	25	0040	S17	E71	08	30.4		A	AXX		1	1	3
4296		MANI	08	25	0158	S16	E70	08	30.4			AXX	20	1	1	2
4296		BOUL	08	25	1338	S18	E62	08	30.3		A	AXX		1		2
4296	23809	MWIL	08	25	1500	S15	E61	08	30.2	3	(AP)					
4296		LEAR	08	26	0101	S17	E58	08	30.4		B	CRO	10	2	3	2
4296		MANI	08	26	0308	S17	E57	08	30.5			AXX	20	1	1	2
4296		ATHN	08	26	0730	S18	E50	08	30.1		A	AXX	10	1	1	3
4296		HOLL	08	26	1403	S16	E49	08	30.3		A	AXX		1		4
4296		BOUL	08	26	1435	S16	E46	08	30.1		A	AXX	10	1	1	2
4296	23809	MWIL	08	26	1500	S17	E48	08	30.3	3	(AP)					
4296		PALE	08	26	1850	S16	E47	08	30.3		A	AXX	10	1	1	3
4296		LEAR	08	27	0029	S17	E43	08	30.3		A	AXO	10	2	1	2
4296		ATHN	08	27	0800	S16	E37	08	30.1		A	AXX	20	1	1	3
4296		BOUL	08	27	1356	S17	E34	08	30.2		A	AXX	10	1		3
4296	23809	MWIL	08	27	1900	S17	E30	08	30.1	4	(AP)					
4296		LEAR	08	28	0027	S16	E29	08	30.2		A	AXX		2	1	3
4296		ATHN	08	28	0645	S16	E23	08	30.0		A	BXO	50	7	2	3
4296		BOUL	08	28	1415	S15	E20	08	30.1		A	AXX	10	2	2	2
4296	23809	MWIL	08	28	1445	S16	E21	08	30.2	4	(AP)					
4296		HOLL	08	28	1520	S16	E22	08	30.3		A	AXX	10	3	2	3
4296		RAMY	08	28	1705	S19	E24	08	30.5		B	CAO	20	2	9	1
4296		PALE	08	28	1740	S17	E20	08	30.3		A	AXX	10	1	1	3
4296		LEAR	08	29	0014	S16	E16	08	30.2		A	HRX	10	2	1	3
4296		MANI	08	29	0555	S17	E14	08	30.3			HRX	20	2	1	3
4296		ATHN	08	29	0700	S16	E11	08	30.1		A	AXX	10	1	1	3
4296	23809	MWIL	08	29	1445	S17	E07	08	30.1	4	(B)					
4296		BOUL	08	29	1525	S15	E06	08	30.1		A	AXX	10	1		3
4296		PALE	08	29	2040	S18	E05	08	30.2		A	AXX	10	1		2
4296		LEAR	08	30	0045	S17	E02	08	30.2		B	BXO		2	1	2
4296		ATHN	08	30	0700	S16	W03	08	30.1		A	AXX	100	1		2
4296		RAMY	08	30	1145	S17	W03	08	30.3		B	BXO	20	3	3	3
4296	23809	MWIL	08	30	1500	S16	W04	08	30.3	3	(AP)					
4296		PALE	08	30	1940	S16	W08	08	30.2		A	AXX	10	1		3
4296		BOUL	08	31	1304	S15	W19	08	30.1		A	AXX	10	1	1	2
4296		HOLL	08	31	1400	S16	W18	08	30.2		A	AXX		2	1	4
4296	23809	MWIL	08	31	1500	S16	W18	08	30.3	3	(AP)					
4296		LEAR	09	01	0015	S16	W24	08	30.2		A	AXX	10	3	2	3
	23811	MWIL	08	27	1900	S09	E35	08	30.4	3	(AP)					
4293	23804	MWIL	08	23	1500	S09	E80	08	29.6	2	(AP)					
4293		HOLL	08	23	1526	S08	E78	08	29.5		A	AXX	10	1	2	3
4293		PALE	08	23	2010	S10	E78	08	29.7		A	AXX	20	2	1	3
4293		LEAR	08	24	0216	S09	E73	08	29.6		A	AXX	10	3	2	2
4293		RAMY	08	24	1243	S12	E69	08	29.7		B	CSO	60	4	5	3
4293	23804	MWIL	08	24	1500	S09	E65	08	29.5	3	(BP)					
4293		BOUL	08	24	1610	S10	E65	08	29.6		B	BXO	20	3	6	3
4293		PALE	08	24	1835	S09	E65	08	29.7		A	AXX	30	2	2	3
4293		LEAR	08	25	0040	S10	E63	08	29.8		B	BXO	10	3	5	3

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4293		MANI	08	25	0158	S10	E62	08	29.7			BXO	30	3	5	2
4293		ATHN	08	25	0750	S09	E54	08	29.4		A	AXX	10	1		2
4293		BOUL	08	25	1338	S10	E41	08	28.6		B	BXO	10	2	1	2
4293		HOLL	08	25	1412	S13	E57	08	29.9		B	BXO	10	4	12	3
4293	23804	MWIL	08	25	1500	S10	E53	08	29.6	3	(B)					
4293		PALE	08	25	1750	S13	E55	08	29.9		B	BXO	10	2	10	4
4293		LEAR	08	26	0101	S11	E48	08	29.7		A	AXX	10	1	1	2
4293		MANI	08	26	0308	S11	E47	08	29.7			AXX	20	1	1	2
4293		ATHN	08	26	0730	S11	E40	08	29.3		A	AXX	10	1	1	3
4293		HOLL	08	26	1403	S10	E40	08	29.6		A	AXX	10	1		4
4293		BOUL	08	26	1435	S09	E38	08	29.5		A	AXX		1	1	2
4293	23804	MWIL	08	26	1500	S08	E40	08	29.6	4	(AP)					
4293		PALE	08	26	1850	S10	E38	08	29.6		A	AXX	10	1	1	3
4293		LEAR	08	27	0029	S10	E34	08	29.6		A	AXX		1	1	2
4293		ATHN	08	27	0800	S09	E35	08	30.0		B	BXO	30	2	3	3
4293	23804	MWIL	08	27	1900	S10	E28	08	29.9	4	(AF)					
4293		ATHN	08	28	0645	S05	E23	08	30.0		B	BXO	20	2	3	3
4293	23813	MWIL	08	28	1445	S06	E22	08	30.3	3	(AP)					
4293		LEAR	08	29	0014	S05	E17	08	30.3		B	BXO	10	4	3	3
4293		MANI	08	29	0555	S05	E15	08	30.4			BXO	20	9	4	3
4293		ATHN	08	29	0700	S05	E12	08	30.2		B	BXO	20	4	3	3
4293	23813	MWIL	08	29	1445	S05	E09	08	30.3	4	(B)					
4293		BOUL	08	29	1525	S05	E08	08	30.2		A	AXX	20	3	5	3
4293		PALE	08	29	2040	S07	E06	08	30.3		B	CRO	20	2	6	2
4293		LEAR	08	30	0045	S05	E05	08	30.4		B	CRO	10	3	6	2
4293		ATHN	08	30	0700	S05	E02	08	30.4		A	AXX	100	1		2
4293		RAMY	08	30	1145	S05	W03	08	30.3		B	BXO	10	2	7	3
4293		HOLL	08	30	1424	S06	W02	08	30.5		B	BXO	10	3	3	4
4293	23813	MWIL	08	30	1500	S06	W05	08	30.3	4	(B)					
4293		BOUL	08	30	1551	S03	W03	08	30.4		A	AXX	10	1		2
4293		PALE	08	30	1940	S04	W04	08	30.5		A	AXX	10	1		3
4295		RAMY	08	24	1243	S09	E88	08	31.1		A	HSX	60	1	3	3
4295	23806	MWIL	08	24	1500	S08	E85	08	31.0	3	(AP)					
4295		BOUL	08	24	1610	S10	E85	08	31.1		A	HSX	90	1	2	3
4295		PALE	08	24	1835	S08	E82	08	30.9		A	HSX	70	1	2	3
4295		LEAR	08	25	0040	S09	E79	08	31.0		A	HSX	20	1	1	3
4295		MANI	08	25	0158	S09	E78	08	30.9			HSX	220	1	2	2
4295		ATHN	08	25	0750	S09	E72	08	30.7		A	HSX	80	1	2	2
4295		RAMY	08	25	1200	S13	E69	08	30.7		A	HAX	130	1	2	3
4295		BOUL	08	25	1338	S09	E70	08	30.8		A	HSX	110	1	2	2
4295		HOLL	08	25	1412	S08	E71	08	30.9		A	HSX	100	1	2	3
4295	23806	MWIL	08	25	1500	S08	E69	08	30.8	5	(AP)					
4295		PALE	08	25	1750	S08	E68	08	30.8		A	HSX	120	1	2	4
4295		LEAR	08	26	0101	S09	E66	08	31.0		A	HHX	70	1	3	2
4295		MANI	08	26	0308	S10	E65	08	31.0			HSX	150	1	2	2
4295		ATHN	08	26	0730	S10	E59	08	30.7		A	HSX	100	1	2	3
4295		HOLL	08	26	1403	S08	E57	08	30.9		A	HSX	150	1	2	4
4295		BOUL	08	26	1435	S09	E55	08	30.7		A	HSX	60	1	2	2
4295	23806	MWIL	08	26	1500	S09	E57	08	30.9	4	(AF)					
4295		PALE	08	26	1850	S07	E54	08	30.8		A	HSX	140	1	2	3
4295		LEAR	08	27	0029	S08	E52	08	30.9		A	HHX	140	1	3	2
4295		ATHN	08	27	0800	S09	E45	08	30.7		A	HAX	110	1	2	3
4295		BOUL	08	27	1356	S09	E42	08	30.7		A	HSX	110	1	2	3
4295	23806	MWIL	08	27	1900	S09	E40	08	30.8	5	(BF)					
4295		LEAR	08	28	0027	S09	E38	08	30.9		A	HSX	160	1	2	3
4295		ATHN	08	28	0645	S10	E32	08	30.7		A	HSX	120	1	2	3
4295		BOUL	08	28	1415	S07	E28	08	30.7		A	HSX	110	1	2	2
4295	23806	MWIL	08	28	1445	S08	E30	08	30.9	5	(AF)					
4295		HOLL	08	28	1520	S08	E30	08	30.9		A	HSX	130	1	2	3
4295		RAMY	08	28	1705	S09	E29	08	30.9		A	HSX	100	1	2	1
4295		PALE	08	28	1740	S08	E29	08	30.9		A	HSX	120	1	2	3
4295		LEAR	08	29	0014	S08	E25	08	30.9		A	HSX	120	1	2	3
4295		MANI	08	29	0555	S08	E23	08	31.0			HSX	150	1	2	3
4295		ATHN	08	29	0700	S09	E20	08	30.8		A	HSX	110	1	2	3
4295	23806	MWIL	08	29	1445	S08	E17	08	30.9	5	(AF)					
4295		BOUL	08	29	1525	S08	E16	08	30.8		A	HSX	160	1	2	3
4295		PALE	08	29	2040	S09	E14	08	30.9		A	HSX	130	1	2	2
4295		LEAR	08	30	0045	S09	E12	08	30.9		A	HSX	80	1	2	2
4295		ATHN	08	30	0700	S07	E07	08	30.8		A	HHX	130	1	3	2
4295		RAMY	08	30	1145	S10	E08	08	31.1		B	CSO	110	6	4	3

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4295		HOLL	08	30	1424	S09	E06	08	31.1		B	CSO	150	4	5	4
4295	23806	MWIL	08	30	1500	S09	E05	08	31.0	6	(AF)					
4295		BOUL	08	30	1551	S07	E02	08	30.8		A	HSX	70	1	2	2
4295		PALE	08	30	1940	S08	E02	08	31.0		A	HSX	70	1	2	3
4295		ATHN	08	31	0900	S08	W06	08	30.9		A	HSX	60	1	2	1
4295		RAMY	08	31	1300	S08	W08	08	30.9		A	HSX	120	1	2	3
4295		BOUL	08	31	1304	S09	W09	08	30.9		A	HSX	80	1	2	2
4295		HOLL	08	31	1400	S08	W08	08	31.0		A	HSX	120	1	2	4
4295	23806	MWIL	08	31	1500	S08	W09	08	31.0	5	(AF)					
4295		PALE	08	31	1810	S08	W11	08	30.9		A	HSX	100	1	2	4
4295		LEAR	09	01	0015	S08	W13	08	31.0		A	HHX	100	1	3	3
4295		ATHN	09	01	0600	S09	W16	08	31.0		A	HAX	70	1	2	1
4295		RAMY	09	01	1240	S07	W21	08	31.0		A	HAX	130	1	2	3
4295		BOUL	09	01	1430	S08	W22	08	31.0		A	HSX	80	1	2	3
4295	23806	MWIL	09	01	1500	S08	W22	08	31.0	5	(AF)					
4295		HOLL	09	01	1633	S08	W23	08	31.0		A	HSX	140	1	2	3
4295		PALE	09	01	1800	S08	W24	08	31.0		A	HSX	90	1	2	3
4295		LEAR	09	02	0137	S08	W28	08	31.0		A	HHX	90	1	3	3
4295		MANI	09	02	0145	S08	W28	08	31.0			HSX	120	1	2	3
4295		ATHN	09	02	0630	S08	W30	08	31.0		A	HSX	110	1	2	3
4295		BOUL	09	02	1438	S08	W35	08	31.0		A	HSX	70	1	2	3
4295		HOLL	09	02	1504	S08	W36	08	30.9		A	HSX	130	1	2	4
4295	23806	MWIL	09	02	1530	S08	W36	08	30.9	5	(AF)					
4295		RAMY	09	02	1540	S08	W37	08	30.9		A	HSX	130	1	2	2
4295		PALE	09	02	1804	S09	W37	08	31.0		A	HSX	120	1	2	4
4295		LEAR	09	03	0200	S08	W41	08	31.0		A	HSX	120	1	2	2
4295		MANI	09	03	0224	S09	W41	08	31.0			HSX	150	2	2	3
4295		ATHN	09	03	0613	S09	W42	08	31.1		A	HSX	90	1	2	3
4295		RAMY	09	03	1355	S08	W48	08	31.0		A	HSX	130	1	2	3
4295		BOUL	09	03	1440	S06	W47	08	31.1		A	HSX	120	1	2	2
4295	23806	MWIL	09	03	1600	S08	W49	08	31.0	5	(AF)					
4295		PALE	09	03	1737	S09	W50	08	31.0		A	HSX	110	1	2	4
4295		HOLL	09	03	1808	S08	W50	08	31.0		A	HSX	90	1	2	4
4295		LEAR	09	04	0100	S08	W54	08	31.0		A	HSX	100	1	2	3
4295		ATHN	09	04	0730	S07	W57	08	31.0		A	HSX	70	1	2	3
4295		HOLL	09	04	1453	S08	W61	08	31.0		A	HSX	130	2	2	3
4295		RAMY	09	04	1527	S07	W62	08	31.0		A	HAX	120	1	2	4
4295	23806	MWIL	09	04	1530	S08	W62	08	31.0	4	(AF)					
4295		BOUL	09	04	1630	S06	W62	08	31.0		A	HSX	120	2	2	3
4295		PALE	09	04	1740	S09	W63	08	31.0		A	HSX	120	1	2	4
4295		MANI	09	05	0209	S09	W69	08	30.9			HSX	140	1	3	2
4295		LEAR	09	05	0325	S08	W68	08	31.0		A	HAX	60	2	2	2
4295		ATHN	09	05	1100	S08	W70	08	31.2		A	HSX	110	1	2	2
4295		BOUL	09	05	1409	S09	W74	08	31.0		A	HXX	60	1	2	2
4295	23806	MWIL	09	05	1500	S08	W76	08	30.9	4	(AF)					
4295		HOLL	09	05	1620	S08	W76	08	31.0		A	HSX	20	2	2	2
4295		PALE	09	05	1908	S09	W78	08	30.9		A	HSX	130	1	2	2
4300		BOUL	08	28	1415	S20	E29	08	30.8		A	AXX		1	1	2
4300	23814	MWIL	08	28	1445	S20	E30	08	30.9	4	(BF)					
4300		HOLL	08	28	1520	S20	E30	08	30.9		A	AXX	20	3	2	3
4300		PALE	08	28	1740	S21	E29	08	31.0		A	AXX		1		3
4300		LEAR	08	29	0014	S21	E25	08	30.9		B	BXO	10	6	3	3
4300		MANI	08	29	0555	S21	E25	08	31.2			BXO	10	4	3	3
4300		ATHN	08	29	0700	S20	E20	08	30.8		B	BXO	10	2	1	3
4300	23814	MWIL	08	29	1445	S20	E17	08	30.9	3	(AF)					
4300		BOUL	08	29	1525	S19	E15	08	30.8		A	AXX	10	1		3
4300		PALE	08	29	2040	S21	E15	08	31.0		A	AXX	10	1		2
4300		LEAR	08	30	0045	S19	E12	08	30.9		A	AXX		1	1	2
4300		ATHN	08	30	0700	S19	E06	08	30.7		A	AXX	100	1		2
4300		RAMY	08	30	1145	S21	E05	08	30.9		A	AXX		1		3
4300		HOLL	08	30	1424	S20	E04	08	30.9		A	AXX		1		4
4300	23814	MWIL	08	30	1500	S20	E04	08	30.9	4	(AF)					
4300		BOUL	08	30	1551	S18	E02	08	30.8		A	AXX		1		2
4300		PALE	08	30	1940	S21	E02	08	31.0		A	AXX		1		3
4300		LEAR	09	01	0015	S22	W13	08	31.0		B	BXO	10	2	3	3
		LEAR	09	01	0015	N13	W08	08	31.4		A	AXX	10	2	2	3

SUDDEN IONOSPHERIC DISTURBANCES

August 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
01	0232	0242	0300	1-	1			1			0231	4263
01	0301	0338	0656	3	3			1	1		0256	4263
01	0316	0336	0550	2+	3	2		1	1		0314	No data
01	0547	0601U	0649	1	1		1				0548E	No data
01	0702	0704	0710	1-	1					1	NF	
01	0907	0919	0939	1	1		1				NF	
01	1229	1232	1310	2	5	2	1	1	1	7	*	
01	2338	2351	0025	1-	3			1	1		2339E	4263
02	0835	0853U	0933	1	1		1				0843E	No data
02	0946	1005	1011	1	1		1				NF	
02	1250	1253	1328	2	1					1	NF	
02	1320	1410U	1430	1	1		1				NF	
02	1645	1647	1700	1-	3					3	NF	
02	1900	1903	1930	1-	1					1	1854	4263
02	2144	2154	2218	1-	1			1			2149	4263
02	2341	0007	0144	2	3	2		1	1	2	2347E	4263
03	0825	0847	0901	1	1		1				NF	
03	1008	1009	1017	1-	1					1	NF	
03	1423	1428	1435	1-	3	1	1		1	3	*	
03	1448	1522	1656	2	5	5	1	1	1	15	1500E	4263
03	2033	2048	2114	1-	1			1			*	
03	2131	2141	2248	1-	3			1		5	2127	4263
04	0227	0236	0254	1-	3			1	1		0224	4263
04	0342	0348	0516	3	3	1		1	1		0332	4263
04	0523	0530	0544	1-	3			1	1		0524	4262
04	0848	0944	1202	1	3	1		1	1		0844	No data
04	1359	1404	1436	1	1		1				*	
04	2248	2254	2320	1-	1			1			NF	
05	0128	0132	0143U	1-	1				1		NF	
05	0336	0345	0422	1-	3			1	1		0337	4263
05	1249	1301	1340	1+	5	4	2	1	1	9	1250	4271
06	0136	0140	0156D	1-	1				1		NF	
06	0650	0653	0704	1-	1					1	NF	
06	0908	0913	0925	1-	3			1	1	1	0908	4263
06	0936	0947	1000	1-	3				1	1	NF	
06	1311	1320	1330	1-	3				1	1	NF	
06	2042	2055	2133	1-	3			1		7	*	
07	0354	0359	0457	1-	3			1	1		0351	4263
07	0648	0705	0736D	2+	3	2		1	2	1	NF	
07	0702	0704	0710	1	3	1			1	3	NF	
07	0736E	0746	0908	2	5	2	2	1	2	3	NF	
07	0917	0923	1100	1-	5	1	2	1	2	3	NF	
07	1024	1028	1102	1	3					2	NF	
07	1146	1154	1210	1-	3				1	1	NF	
07	1235	1312	1337	1	3	1	1		1	4	NF	
07	1305	1315	1345	1	3				1	4	1304	No data
07	2156	2210	2354	2	5	1		1		9	2153	4263
08	0056	0103	0111U	1-	3				1	1	0103	4267
08	0146	0154	0206U	1-	1				1		NF	
08	0251	0304	0410D	3	3	1		1	1	1	0256E	No data
08	0410E	0449	0642	2+	3			1	1		NF	
08	0714	0725	0820	1-	3			1	1		0718	No data
08	0905	0911	0925	1	1	1					0911E	No data
08	2314	2322	2354	1-	1			1			*	
08	2354	0003	0115	1-	1			1			2349	4278
09	0827	0839	0911	1-	1			1			0826	4278
09	1800	1812	1900	1+	1					1	NF	

SUDDEN IONOSPHERIC DISTURBANCES

August 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type SWF	SEA	SPA	LF-SPA	SES	Known Flare	NOAA/SESC Region
10	0628	0643	0734	1-	1			1			NF	
10	1200	1211	1240	1+	3					2	NF	
10	2305	2317	2350D	1-	3			1		1	NF	
10	2354	0004	0030	1-	1			1			*	
11	0610	0639	0803	2	1		1				NF	
11	0854	0929	0946	1	1		1				NF	
12	0024	0029	0136	1-	3	1		1	1		0024	4279
12	0551	0558	0628D	1+	3	1	1	1	2		0548	4278
12	0623	0634	0652	1-	1			1			0627	4278
12	0713	0719	0756	1-	1			1			0714	No data
12	0801	0811	0842D	1-	3	1		1	2	4	0800	No data
12	0851	0856	0915	1-	3	1		1	1	2	0852E	No data
12	1238	1248	1318	1-	5	2	3	1	1	6	1235	4279
12	1759	1801	1825	1+	3					12	1757	4279
13	0021	0026	0044	1-	1			1			0019	4278
13	0330	0348	0422D	1-	3	1		1	1		0331	No data
13	0424	0430	0510	1	3	1	1	1	1	1	0422	4279
13	0706	0720	0802D	1-	3			1	1	2	0703	4279
13	0805	0817	0840	1	3		1	1	2	2	0801	No data
13	0842	0855	0915	1-	3	1			1		0833	4279
13	1324	1332	1345	1-	3	1			1	1	1324E	4278
13	1812	1818	1857	1	5	5		1	1	14	1807	4278
14	0025	0034	0120	1-	3			1	1	1	0029E	No data
14	0720	0733	0814	1-	1			1			0724	No data
14	1639	1657	1730	1+	5	4	3		1	13	1626	No data
15	0044	0050	0108D	1-	3			1	1		0042	4279
15	0230	0242	0312	1-	3			1	1		0230	4278
15	0743	0810	0917D	1-	1			1			0741	4279
15	0804	0812	0821	1-	3			1	2	2	0800	No data
15	0916	0946	1052	2	1			1			0914	4278
15	0937	0945	1035	2	3	3			1	5	NF	
15	1820	1822	1850	1+	1					1	1818	4278
16	0018	0032	0108	1-	3			1	1	1	0017	4279
16	0820	0831	0932	1-	5	1	3	1	2	6	0820	No data
16	1345	1347	1430	1	3	1	1		1	6	1345	4279
16	1557	1606	1700	1+	5	2	1		1	15	1550E	4278
16	1736	1738	1800	1-	1					1	NF	
16	2145	2154	2218	1-	1			1			2142E	4286
16	2219	2230	2250	1-	1			1			2220	4279
17	0047	0058	0142	1-	3			1	1	2	0043	4279
17	0232	0240	0425	2+	5	1	1	1	1	4	0232	4279
17	0846	0902	0935	1-	3	1			1	3	0845	No data
17	1703	1712	1745	1-	3					2	NF	
17	1904	1914	2116	1	5	2		1		10	1904	4279
17	2352	2353	0000	1-	1					1	NF	
18	0500	0504	0534	1-	3			1	1		0457	4279
18	1018	1020	1040	1	1					1	NF	
18	1623	1629	1702U	1	1		1				NF	
18	1820	1822	1823	1-	1	1					NF	
19	0222	0234	0308	1-	3			1	1		0226E	4279
19	0309	0315	0404	1-	3			1	1		0307	4279
19	1825	1828	1932	1-	3					4	1823	4288
19	2006	2022	2052	1-	3			1		3	NF	
19	2232	2248	2348	1	5	2		1		10	NF	
20	0510	0520	0707	2+	5		1	1	1	4	NF	
20	0853	0906	1017	1-	3			1		2	NF	
20	1528	1540	1615	1	3					2	NF	

SUDDEN IONOSPHERIC DISTURBANCES

August 1983

Day	Start (UT)	Max (UT)	End (UT)	Imp	Wide-spread Index	Number of Station Reports by Type					Known Flare	NOAA/SESC Region
						SWF	SEA	SPA	LF-SPA	SES		
20	1803	1805	1850	1+	3					4	1802	4288
20	2355	0003	0034	1-	1			1			*	
21	1757	1807	1830	1	3	1				12	NF	
23	2322	2330	012	2	3	2		1		5	2322	4284
23	2337	2340	0015	1	1					1	*	
25	0215	0220	0230U	1-	1				1		*	
26	1342	1345		1-	1	1					NF	
27	0742	0751	0841	1-	1			1			0741	4293
29	0051	0120	0146	1-	3			1	1		0037	No data

OBSERVATORIES REPORTING SIDs*

AUG 1983

Ayrshire, Scotland (AY)	SES	Lintong, China (LT)	SPA
Darmstadt, GFR (DA)	SWF	Maui, Hawaii, USA (MI)	SWF
Durham, North Carolina, USA (A54)	SES	Missoula, Montana, USA (A31)	SES
Farsta, Sweden (FA)	SES	Panska Ves, Czechoslovakia (PU)	SEA, SWF, SES
Frenchtown, Montana, USA (A56)	SES	Patterson, New Jersey, USA (A46)	SES
Hiraiso, Japan (HI)	SWF	Portage, Michigan, USA (A51)	SES
Hobart, Tasmania, Australia (TA)	SEA	Roswell, New Mexico, USA (RW)	SES
Houston, Texas USA (A50)	SES	San Antonio, Texas, USA (SA)	SES
Huancayo, Peru (HU)	SWF	Sofia, Bulgaria (SF)	SES
Inubo, Japan (IN)	SPA	St. Cloud, Minnesota, USA (SC)	SES
Juliusruh, GDR (JU)	SWF	Tournal, Belgium (TB)	SES
Kuhlungsborn, GDR (KU)	SPA, SEA	Trenton, New Jersey, USA (NJ)	SES
Lake Hiawatha, New Jersey, USA (A32)	SES	Upice, Czechoslovakia (UI)	SEA
Latrobe, Pennsylvania, USA (A19)	SES	Valley Cottage, New York, USA (A1)	SES

*Observations are not necessarily continuous for each reporting station.

SID's BY NOAA/USAF REGION

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Region																															
4262				1																											
4263	3	3	2	2	1	1	2																								
4267								1																							
4271					1																										
4278								1	1			2	3		3	1															
4279												3	3		2	3	3	1	2												
4284																							1								
4286																1															
4288																			1	1											
4293																											1				
X-ray																															
No. Flares	2	4	2	1	1	4	7	2	1	3	2				1	1	2	3	2	3	1				1						
No. Flare Patrol	1		2	1		1		1		1										1			1							
No. Data	2	1		1			1	3				3	2	3	1	1	1													1	
Event Totals	8	8	6	6	3	6	10	8	2	4	2	8	8	3	7	7	6	4	5	5	1		2		1	1				1	

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01	0000	0738	CULG				0006.0		2				IIIB
			CULG	0009.5		1	0009.5	0010.5	3				IIIG,V
			CULG				0024.5	0025.0	3				IIIG,U
			LEAR				0024.6	0025.3	2				III
			CULG				0026.5	0707.0	1				IIIN
			LEAR				0203.3	0203.5	1				III
			LEAR				0222.3	0222.6	1				III
			LEAR				0231.3	0234.6	1				III
			CULG				0231.5	0234.5	2				IIIN
			CULG				0234.0	0258.5	1				IN
			CULG	0247.5	0319.5	1							CONT
			CULG				0258.5	0445.0	2				IS,C
			CULG				0317.0	0319.5	2	0317.5	0319.5	2	IIIG,V
			LEAR				0317.0	0324.1	1				III
			CULG	0319.0	0321.0	1							P
			CULG	0321.0	0724.0	1							IN
			CULG							0322.0	0355.0	1	SWF
			CULG				0323.0	0716.5	2				IIIN
			CULG				0328.5	0400.0	2			II	
			LEAR				0329.3	0332.3	1				III
			LEAR				0332.8	0353.3	1			II	
			LEAR				0402.0	0945.0	1				CONT
			CULG	0402.5	0403.0	1	0402.5	0403.5	3				IIIG,U
	0415	1800	BLEN				0415.0E	1800.0D	2				IN
			CULG	0416.5	0417.0	2	0416.5	0419.0	3	0417.5	0418.5	3	IIIG,V
			LEAR				0416.6	0419.0	2				V
			CULG				0445.0	0728.5	3				IS,C
			BLEN				0545.1	0546.4	2				IIIGG
			LEAR				0655.8	0701.8	2				III
			CULG				0656.0	0658.0	3				IIIG,V
	0701	1821	WEIS				0704.0	0825.0	2				IS
			WEIS				0716.2	0716.6	1				IIIB
			LEAR				0811.8	0813.3	2				III
			WEIS				0811.8	0813.4	2				IIIG
			BLEN				0828.5	0829.1	2				IIIG
			LEAR				0828.6	0829.6	2				III
			WEIS				0828.7	0829.7	3				IIIG
			WEIS				0850.3	0854.6	3				IIIGG
			BLEN				0852.5	0911.2	3				IIIGG
			LEAR				0852.6	0902.0	2				III
			WEIS				0857.3	0858.8	3				IIIG
			WEIS				0900.3	0903.9	3				IIIGG
			WEIS				0911.1	0911.3	2				IIIG
			WEIS				0913.7	0913.9	1				IIIB
			LEAR				0915.3	0916.0	2				III
			WEIS				0915.4	0916.1	2				IIIG
			WEIS				0937.7	0938.2	2				IIIG
			WEIS				1016.4	1016.6	1				IIIB
			BLEN				1020.2	1027.9	3				IIIGG
			WEIS				1020.8	1021.6	3				IIIG
			WEIS				1026.9	1028.3	3				IIIG
			WEIS				1142.9	1143.1	2				IIIB
			WEIS				1151.3	1151.7	2				IIIG
			WEIS				1205.8	1205.9	1				IIIB
			WEIS				1225.5	1233.7	3				IIIGG/V
			SGMR				1226.6	1231.3	3				V
			BLEN	1228.7	1228.9	1	1225.6	1233.9	3				IIIGG
			SGMR				1232.0	1233.5	2				V
			WEIS				1355.2	1355.4	1				IIIB
			SGMR				1357.6	1400.3	1				V
			WEIS				1357.7	1358.3	3				IIIG
			WEIS				1359.2	1359.8	2				IIIG
			SGMR				1402.5	1405.6	2				V
			WEIS				1402.6	1405.8	3				IIIGG
			BLEN	1403.7	1404.2	3	1403.7	1404.2	3				IIIG,DCIM
			SGMR				1428.0	1429.0	1				V
			WEIS				1428.6	1429.3	3				IIIG
			BLEN				1428.7	1429.0	2				IIIG
			WEIS				1517.4	1517.7	3				IIIB
			SGMR				1521.8	1522.3	1				V
			WEIS				1522.3	1522.6	3				IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

AUGUST 1983

Day	Observation Start (UT)	Observation End (UT)	Sta	Decimetric Band Start (UT)	Decimetric Band End (UT)	Decimetric Band Int (1-3)	Metric Band Start (UT)	Metric Band End (UT)	Metric Band Int (1-3)	Dekametric Band Start (UT)	Dekametric Band End (UT)	Dekametric Band Int (1-3)	Spectral Type
01			SGMR				1609.6	1610.0	1				V
			WEIS				1609.8	1610.1	2				II B
			SGMR				1614.0	1614.8	2				V
			BLEN				1614.1	1614.6	3				IIIGG
			WEIS				1614.3	1614.9	3				IIIG
			SGMR				1616.1	1616.5	1				V
			WEIS				1616.2	1616.6	2				IIIG
			SGMR				1617.6	1618.0	1				V
			WEIS				1617.7	1618.1	2				IIIG
			SGMR				1631.6	1632.1	1				V
			WEIS				1631.8	1632.2	3				IIIB
			SGMR				1635.6	1635.8	1				III
			WEIS				1635.7	1635.9	2				IIIB
			SGMR				1637.6	1637.8	1				III
			WEIS				1637.8	1638.0	2				IIIB
			SGMR				1650.1	1650.6	1				V
			WEIS				1650.3	1650.7	2				IIIG
			WEIS				1710.4	1710.8	2				IIIB
			SGMR				1714.0	1714.3	1				V
			WEIS				1714.1	1714.9	2				IIIG
			WEIS				1738.7	1739.1	2				IIIG
			SGMR				1750.1	1750.6	1				V
			SGMR				1954.1	1957.0	2				V
			SGMR				2118.0	2118.1	1				III
	2129	2400	CULG				2133.0	2400.0	1				IN
			CULG				2144.0	2355.0	2				IIIN
			CULG				2155.5	2329.5	1				IIIN
			CULG				2156.5	2244.0					IIIS,W
			CULG				2201.0		3				IIIB
			SGMR				2201.1	2201.1	2				III
			SGMR				2219.3	2219.5	1				III
			CULG				2219.5	2220.0	3				IIIG
			PALE				2333.6	2343.8	3				GG
			LEAR				2333.8	2350.8	2				G
			CULG	2335.0	2348.0	2	2333.5	2355.0	3	2338.5	2354.0	2	IIIGG,N
02	0000	0727	CULG				0000.0	0100.0	1				IN
			LEAR				0002.3	0002.3	1				III
			PALE				0002.3	0002.5	2				III
			LEAR				0031.3	0031.6	1				III
			LEAR				0044.0	0946.0	1				CONT
			CULG				0100.0	0724.0	1				IS,N
			PALE				0135.3	0135.3	2				III
			LEAR				0137.8	0138.3	2				III
			PALE				0137.8	0138.1	3				III
			CULG				0138.0	0637.5	3	0138.0	0401.5	3	IIIG,N
			PALE				0238.6	0238.8	2				III
			PALE				0307.3	0307.3	2				III
			CULG				0307.5		3				IIIB
			CULG				0318.0	0321.0	3	0319.0	0320.0	2	IIIGG
			PALE				0318.5	0319.8	2				III
			LEAR				0401.6	0401.8	2				III
	0415	1818	BLEN				0415.0E	1815.0D					IN
	0436	1300	WEIS				0446.0	1728.0	3				IIIS
			LEAR				0459.0	0459.3	2				III
			LEAR				0553.3	0553.8	2				III
	1304	1416	WEIS				0553.4	0553.9	3				IIIG
	1504	1818	WEIS				0559.3	0601.4	3				IIIG
			LEAR				0636.8	0637.6	2				III
			WEIS				0636.9	0637.7	3				IIIG
			LEAR				0739.6	0742.6	2				III
			WEIS				0739.7	0740.4	3				IIIG
			WEIS				0742.1	0742.8	3				IIIG
			WEIS				0804.9	0806.2	3				IIIG
			LEAR				0805.0	0806.1	2				III
			WEIS				0821.6	0821.8	2				IIIG
			WEIS				0832.6	0834.3	3				IIIG
			WEIS				0837.3	0837.7	3				IIIG
			WEIS				0850.2	0852.9	3,				IIIG
			WEIS				0905.8	0906.3	3				IIIG
			WEIS				0908.1	0909.9	3				IIIG

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02		BLEN				0917.2	0921.3	2				IIIGG
		WEIS				0917.3	0921.6	3				IIIGG
		LEAR				0919.6	0921.3	2				III
		WEIS				0944.2	0948.3	3				IIIGG,U
		WEIS				0949.8	0952.9	3				IIIGG
		BLEN				0950.0	0952.5	2				IIIGG
		WEIS				1036.9	1038.1	3				IIIG
		SGMR				1158.3	1200.0	1				V
		WEIS				1158.4	1159.2	3				IIIB
		SGMR				1201.3	1201.6	1				III
		WEIS				1201.3	1202.6	2				IIJG
		SGMR				1213.3	1213.6	1				V
		BLEN				1221.6	1223.8	3				IIIGG
		SGMR				1221.6	1225.3	2				V
		WEIS				1221.7	1225.7	3				IIIGG
		BLEN	1222.2	1222.4	2							DCIM
		SGMR				1247.3	1250.5	1				V
		SGMR				1304.8	1305.0	1				V
		WEIS				1307.7	1308.9	3				IIIGG
		SGMR				1307.8	1308.8	2				V
		BLEN				1315.0	1315.2	2				IIIG
		SGMR				1324.8	1325.0	1				III
		SGMR				1335.3	1336.1	3				V
		WEIS				1335.4	1336.6	3				IIIG
		BLEN	1335.5	1335.7	3	1335.5	1335.7	3				IIIG,DCIM
		SGMR				1337.8	1338.1	1				V
		SGMR				1356.0	1357.6	1				V
		SGMR				1359.3	1359.5	1				V
		WEIS				1359.3	1359.7	3				IIIB
		SGMR				1425.6	1425.8	1				III
		SGMR				1447.0	1447.8	1				V
		SGMR				1450.3	1450.5	1				III
		SGMR				1517.1	1517.6	1				V
		WEIS				1517.3	1518.3	3				IIIG
		SGMR				1521.3	1522.3	1				V
		SGMR				1542.6	1543.0	1				V
		SGMR				1550.3	1550.6	1				V
		SGMR				1603.6	1604.0	1				V
		WEIS				1603.6	1604.2	3				IIIG
		SGMR				1610.5	1622.0	1				GG
		BLEN	1620.0	1621.5	3							DCIM
		BLEN				1623.4	1623.7	2				IIIG
		SGMR				1623.5	1623.8	2				V
		WEIS				1623.6	1624.0	3				IIIG
		WEIS				1628.9	1621.7	3				IIIGG
		SGMR				1634.6	1636.0	1				V
		SGMR				1637.1	1637.3	1				V
		SGMR				1638.1	1638.3	1				V
		SGMR				1645.0	1649.1	2				V
		WEIS				1645.3	1649.7	3				IIIGG
		PALE				1646.3	1647.0	3				III
		BLEN	1646.6	1649.0	3							IIIGG,DCII
		SGMR				1655.1	1700.0	2				V
		BLEN				1655.2	1815.0	2				IIIGG,N
		WEIS				1655.3	1701.4	3				IIIGG
		PALE				1656.8	1659.1	2				V
		WEIS				1704.3	1705.3	3				IIIG
		SGMR				1720.3	1731.3	1				GG
		WEIS				1720.5	1720.8	2				IIIG
		WEIS				1725.4	1728.1	3				IIIGG
		PALE				1726.3	1730.1	2				III
		WEIS				1729.3	1732.6	3				IIIGG
		SGMR				1742.5	1746.0	2				V
		WEIS				1742.6	1745.9	3				IIIGG
		BLEN	1744.2	1745.2	1							DCIM
		PALE				1745.1	1745.6	3				V
		WEIS				1809.7	1816.9	3				IIIGG
		PALE				1810.1	1816.5	3				V
		SGMR				1844.1	1855.0	1				GG
		PALE				1847.3	1850.1	3				V
		SGMR				1858.3	1901.5	3				V

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02			PALE				1858.6	1901.3	3				V
			PALE				1905.8	1917.1	2				G
			SGMR				1905.8	1906.0	1				III
			SGMR				1916.3	1917.0	1				V
			SGMR				1933.0	1935.0	1				V
			PALE				1933.1	1935.1	2				III
			PALE				1951.8	2006.8	2				GG
			SGMR				1951.8	2016.8	1				GG
			SGMR				2033.0	2033.3	2				V
			SGMR				2034.6	2034.8	1				V
			SGMR				2042.0	2042.3	2				V
			PALE				2042.8	2044.8	3				V
	2038	2400	CULG				2043.0	2353.0	2				IIIN
			SGMR				2044.6	2044.8	1				V
			SGMR				2050.1	2054.0	2				V
			PALE				2050.3	2054.1	3				V
			CULG				2050.5	2054.5	3				IIIGG
			CULG				2051.0	2400.0	1				IS
			CULG	2053.0	2054.5	1							DCIM
			CULG				2101.0	2350.0	3				IIIN
			PALE				2103.6	2112.6	2				V
			SGMR				2103.6	2104.5	1				V
			SGMR				2112.3	2112.6	1				V
			PALE				2142.3	2143.0	2				III
			SGMR				2142.3	2143.0	1				V
			SGMR				2144.5	2147.3	2				V
			PALE				2144.6	2147.5	3				V
			CULG	2146.0	2150.5	1	2425.0	2151.03	5				IIIGG,N
			PALE				2149.1	2150.3	1				III
			CULG				2325.5	2331.0	3	2325.5	2331.5	1	IIIGG
			LEAR				2328.8	2331.3	1				III
			LEAR				2339.3	2347.0	2				III
			PALE				2340.3	2346.3	3				V
			CULG	2341.5	2347.0	2	2340.5	2347.0	3	2340.5	2346.5	3	IIIGG
			CULG	2344.0		1							DCIM
			LEAR				2349.8	2350.0	1				III
			PALE				2349.8	2350.0	2				III
			CULG	2359.0	2400.0	2	2359.0	2400.0	3				IIIGG,V
			LEAR				2359.1	0005.1	2				III
			PALE				2359.3	0002.3	3				V
03			CULG				0000.0	0458.0	1				IS
	0000	0733	CULG	0000.0	0001.5	2	0000.0	0002.5	3	0000.0	0001.5	2	IIIGG,V
			PALE				0003.8	0005.3	2				V
			CULG				0004.0	0005.0	3				IIIGG
			CULG				0010.5	0724.5	1				IIIN
			LEAR				0011.0	0017.1	1				III
			PALE				0016.8	0017.0	2				III
			CULG				0017.0	0725.0	2				IIIN
			PALE				0029.6	0030.1	2				III
			LEAR				0032.1	0032.6	1				III
			PALE				0032.1	0032.6	1				III
			PALE				0124.8	0125.1	2				III
			CULG				0231.5	0725.5	3	0231.5	0529.0	1	IIIG,N
			LEAR				0231.6	0232.1	1				III
			PALE				0231.6	0232.1	2				III
			CULG				0310.0	0313.0	3	0310.5	0312.5	3	IIIGG
			LEAR				0310.0	0313.8	2				V
			PALE				0310.3	0313.3	3				V
			PALE				0337.1	0337.3	1				III
			PALE				0346.3	0346.8	3				V
			PALE				0349.5	0351.3	2				III
			LEAR				0430.3	0431.5	2				III
	0440	1818	WEIS				0449.0	1746.0	3				IIIN
			LEAR				0528.5	0529.0	2				III
			WEIS				0552.8	0530.7	3				IIIG
			WEIS				0712.1	0714.7	2				IIIG
			WEIS				0723.3	0726.6	3				IIIG
			LEAR				0724.0	0725.6	2				III
	0415	1815	BLEN				0724.6	0725.5	3				IIIGG
			WEIS				0905.0	0907.4	3				IIIG

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03			WEIS				0910.5	0910.8	3				III G
			WEIS				0913.8	0914.3	3				III G
			BLEN				0950.1	0950.3	1				III G
			WEIS				0950.2	0952.7	3				III G
			WEIS				1005.3	1012.3	3				III GG
			BLEN				1007.8	1010.6	3				III GG
			SGMR				1007.8	1010.5	1				V
			BLEN				1019.2	1815.0	2				III GG,N
			WEIS				1019.3	1019.7	3				III G
			SGMR				1036.0	1036.1	1				III
			WEIS				1036.1	1036.4	3				III G
			SGMR				1110.3	1110.8	1				III
			WEIS				1110.3	1111.9	3				III G
			SGMR				1200.6	1200.6	1				III
			SGMR				1200.8	1201.6	1				V
			SGMR				1218.8	1219.1	1				V
			SGMR				1235.8	1236.0	1				V
			SGMR				1246.8	1347.3	1				V
			SGMR				1255.0	1355.3	1				V
			WEIS				1347.2	1347.8	3				III G
			WEIS				1356.3	1356.5	3				III G
			SGMR				1408.0	1411.6	1				G
			WEIS				1408.2	1409.7	3				III G
			WEIS				1408.9	1429.3	3				III GG
			SGMR				1418.8	1428.1	1				G
			WEIS				1431.0	1447.0	2				IS
			BLEN	1439.5	1617.0	3	1445.0	1454.2	2				IV
			WEIS				1447.9	1456.3	3				III GG/V
			SGMR				1448.6	1454.3	2				V
			SGMR				1506.6	0000.0	1				CONT
			WEIS				1506.7	1506.9	3				III B
			SGMR				1512.0	1516.3	2				V
			WEIS				1512.1	1515.3	3				III GG
			WEIS				1522.7	1523.6	3				III G
			WEIS				1613.8	1614.2	3				III G
			SGMR				1829.3	1829.6	1				III
			PALE				1829.6	1829.8	1				III
			PALE				1859.6	1900.6	3				V
			SGMR				1859.8	1900.5	1				V
			PALE				1913.8	1913.8	1				III
			SGMR				1956.0	1956.6	1				V
			PALE				1956.3	1957.0	3				V
			PALE				2030.6	2042.8	2				G
			SGMR				2035.0	2035.3	1				V
			SGMR				2042.3	2042.6	1				V
	2040	2400	CULG				2103.0	2338.0	2				III N
			PALE				2103.1	2118.8	2				G
			CULG				2117.5	2306.5	1				III N
			PALE				2128.1	2136.3	3				V
			CULG				2129.0	2131.0	3				POSS II
			SGMR				2129.0	2131.0	1				V
			CULG				2135.5	2209.0	3				III G,N
			SGMR				2135.5	2136.1	1				V
			SGMR				2206.1	2206.1	1				III
			PALE				2206.3	2209.0	3				V
			SGMR				2208.1	2209.0	1				V
			PALE				2309.6	2309.8	2				III
			LEAR				2337.8	2338.1	1				III
			PALE				2337.8	2338.1	2				III
			LEAR				2339.3	2347.0	2				III
			PALE				2340.3	2346.3	3				V
			PALE				2349.8	2350.0	2				III
			PALE				2359.3	0002.3	3				V
04			PALE				0001.3	0004.1	2				V
	0000	0078	CULG				0006.0	0715.5	1	0215.5	0216.5	1	III N
			CULG				0139.5	0635.5	2				III N
			LEAR				0139.6	0140.1	1				III
			LEAR				0215.3	0215.8	1				III
			LEAR				0224.0	0226.1	1				III
			CULG				0226.0		3	0226.0		1	III B

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04			LEAR				0329.8	0330.3	1				III
			CULG	0341.5	0344.0	1							CONT
			LEAR				0341.5	0345.5	3				V
			PALE				0341.6	0034.8	3				V
			CULG	0342.0	0343.0	3	0341.5	0344.5	3	0341.5	0344.0	3	IIIG,V
			CULG							0344.0	0347.0		SWF,W
			LEAR				0347.0	0358.0	1				G
			CULG				0348.0	0358.0					POSS II,W
			CULG				0355.0	0357.0	3				IIIG
			LEAR				0447.8	0448.6	2				V
	0440	0557	WEIS				0447.9	0448.3	2				IIIG
			CULG				0448.0		3				IIIG
			LEAR				0522.3	0522.5	1				III
			WEIS				0522.3	0522.5	2				IIIB
			LEAR				0635.1	0635.6	1				III
			LEAR				0715.6	0715.8	1				III
	0415	1115	BLEN	0835.7	1040.5	3							IV
	0843	1815	WEIS										
			PALE				2016.1	2016.8	2				III
			SGMR				2016.1	2017.0	2				III
			SGMR				2040.8	2041.0	1				III
	2038	2400	CULG				2125.5	2357.5	2				IIIN
			PALE				2125.5	2128.3	2				III
			CULG				2128.5	2344.0	3				IIIG,N
			PALE				2225.0	2225.1	2				III
			PALE				2242.1	2242.5	2				III
			PALE				2259.1	2300.6	3				V
			PALE				2342.8	2351.1	2				III
			LEAR				2343.3	2344.0	1				III
			LEAR				2351.0	2351.3	1				III
05	0000	0738	CULG				0442.5		1				IIIB
			LEAR				0809.0	0809.3	1				III
			LEAR				0821.8	0822.1	1				III
	0442	1515	WEIS				0906.9	0908.9	3				IIIG
			LEAR				0908.6	0909.0	2				III
			WEIS				1010.3	1010.6	2				IIIB
	1539	1815	WEIS										
			PALE				2106.8	2107.0	2				III
	2038	2400	CULG	2148.5		1							IIIG
			CULG	2212.5		1							IIIB
			LEAR				2343.3	2344.0	1				III
			LEAR				2351.0	2351.3	1				III
06	0000	0738	CULG				0023.0	0026.0	1				IIIN
			CULG	0155.0		1							IIIB
			CULG	0231.0		1	0231.0		1				IIIB
	0443	1813	WEIS										
			CULG				0453.5		1				IIIB
			CULG	0623.0	0626.5	1							IIIN
	1410	1810	BLEN										
			PALE				1709.3	1711.6	2				III
	2038	2400	CULG										
			PALE				2045.1	2047.3	2				V
			PALE				2120.6	2124.6	1				V
07	0000	0738	CULG	0252.0	0253.0	1							DCIM
			CULG	0335.5	0336.0	1							IIIG
			CULG	0350.5	0356.5	2	0350.5	0356.5	1				IIIG,N
			CULG	0352.0	0356.5	2							DCIM
			CULG				0652.0	0654.5	2				IIIG,U,V
	0444	0831	WEIS				0652.3	0654.7	2				IIIGG
			LEAR				0652.8	0654.8	1				III
			LEAR				0915.8	0918.0	2				III
	0415	1603	BLEN	1149.3	1149.6	3	1149.3	1149.6	3				IIIG
	1025	1812	WEIS				1149.4	1149.7	2				IIIG
			WEIS				1206.7	1206.9	1				IIIB
			BLEN	1242.5	1243.9	2							DCIM
			BLEN				1457.5	1457.8	2				IIIG
			WEIS				1457.7	1457.8	1				DCIM
			BLEN	1535.1	1535.3	2							DCIM

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07	2038	2400	CULG	2154.0	2157.5	1							IN
			CULG	2157.0	2203.5	1							CONT,N
08			CULG	0255.0	0257.5	1							IS,C
	0000	0704	CULG							0255.0	0306.0		SWF,W
			LEAR				0539.3	0539.8	1				III
	0446	1657	WEIS				0539.4	0539.9	1				IIIB
			CULG				0539.5	0540.0	1				IIIB,U
			CULG				0654.5		1				IIIB
			WEIS				0721.3	0721.6	2				IIIG
	0415	1800	BLEN	0729.5	0729.9	2	0729.5	0729.9	2				IIIG
			WEIS				0846.6	0847.0	1				IIIG,U
			BLEN				0853.0	0853.9	2				IIIG
			BLEN	1119.8	1120.3	2	1119.8	1120.3	2				IIIG
			BLEN				1618.0	1618.5	2				IIIG
			WEIS				1623.1	1623.3	1				IIIG
	1704	1818	WEIS										
	2039	2400	CULG										
09	0000	0738	CULG				0106.5		2				IIIB
	0440	1818	WEIS										
	0500	1800	BLEN										
	2038	2400	CULG										
10	0000	0738	CULG										
	0441	0945	WEIS										
	0500	1740	BLEN				1204.2	1204.5	1				IIIGG
	0955	1815	WEIS				1204.2	1205.3	3				IIIG
			SGMR				1204.3	1204.6	1				III
			WEIS				1517.6	1517.7	1				IIIB
			BLEN				1622.2	1623.8	2				IIIGG
			SGMR				1622.3	1624.1	1				V
			WEIS				1622.3	1624.3	3				IIIG
			WEIS				1640.1	1640.3	1				IIIB
			SGMR				1649.0	1649.3	1				V
			WEIS				1649.1	1649.5	3				IIIG
			BLEN				1649.2	1649.3	1				IIIG
	2038	2400	CULG	2350.0	2350.5	1	2350.0	2350.5	1				IIIG
			CULG	2352.0	2352.5	1	2352.0	2354.0	3	2353.0	2354.0		IIIG
			LEAR				2352.6	2354.0	1				III
			PALE				2352.8	2353.8	2				V
11	0000	0732	CULG	0312.5	0315.0	1							IN
			LEAR				0314.6	0314.8	1				III
	0442	1607	WEIS				0558.8	0558.9	2				IIIB
			CULG				0559.0		3				IIIB
			CULG				0559.5	0600.0	1				IIIN
			CULG				0604.5		2				IIIB
			LEAR				0723.3	0724.8	1				III
			WEIS				0723.6	0724.0	2				IIIB
			LEAR				0756.6	0756.6	1				III
			WEIS				0756.7	0756.8	1				IIIB
	0500	1605	BLEN				0837.3	0837.7	1				IIIG
			LEAR				0837.3	0839.5	1				III
			WEIS				0837.4	0839.6	3				IIIG
			BLEN				1116.3	1122.1	1				IIIGG
			SGMR				1117.3	1123.1	1				V
			WEIS				1117.3	1123.7	3				IIIGG
			BLEN				1218.3	1218.8	1				IIIG
			WEIS				1518.6	1518.8	2				IIIB
			WEIS				1530.8	1530.9	2				RS
			PALE				1911.0	1915.1	1				III
			SGMR				1911.0	1915.1	1				V
			PALE				1925.1	1925.8	2				III
			SGMR				1925.1	1925.3	1				III
			CULG				2240.0	2251.5	3				IIIN
	2154	2400	CULG	2240.0	2310.0	1							IIIN
			CULG				2252.0	2253.0	1				IIIG
			PALE				2321.3	2322.3	1				III
			PALE				2325.6	2327.1	2				V
			PALE				2348.8	2350.1	2				V

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11			LEAR				2352.6	2354.0	1				III
12			PALE				0014.1	0015.3	2				V
			LEAR				0021.6	0029.8	2				III
			PALE				0021.8	0026.8	3				V
	0000	0737	CULG	0022.0	0023.0	1	0021.5	0024.0	3				IIIG,U,V
			CULG	0023.5	0026.5	1							DCIM,N
			CULG	0025.5	0030.0	2	0025.0	0030.0	2				IIIG,N
			CULG	0111.5	0112.0	1							IIIG
			LEAR				0135.8	0135.8	1				III
			CULG				0136.0		2				IIIB
			CULG	0157.0	0157.5								IIIG
			LEAR				0232.8	0239.8	2				III
			CULG				0233.0	0707.5	1				IIIN
			CULG				0237.5	0239.5	3				IIIN
			PALE				0237.5	0238.3	2				V
			CULG	0419.5	0421.0	2							IIIG
			CULG	0423.0	0424.0	3	0423.0	0423.5	2				IIIG
			CULG	0655.5		1							IIIG
			LEAR				0707.5	0712.0	2				V
	0649	1816	WEIS				0707.6	0711.1	3				IIIG
			CULG				0708.0	0710.0	3				IIIGG,I
			CULG				0711.1	0717.5	1				IS
			WEIS				0723.6	0723.7	1				IIIG
			WEIS				0742.4	0748.1	2				IIIG,UDCIM
			WEIS				0744.8	0745.7	2				IIIG,RS
			LEAR				0753.8	0754.5	1				III
			WEIS				0754.0	0754.7	3				IIIG
			LEAR				0800.8	0803.3	2				V
			WEIS				0803.4E	0803.4E	3				IIIGG
			LEAR				0827.5	0827.8	1				III
			WEIS				0827.6	0828.0	3				IIIG
			WEIS				0914.7	0914.9	3				IIIG,U
			WEIS				0938.1	0938.7	3				IIIG
			WEIS				0956.9	0958.6	3				IIIG
			WEIS				1057.4	1058.3	2				IIIG,U
			WEIS				1111.0	1112.6	3				IIIG
			SGMR				1111.1	1111.3	1				III
	1353	1750	BLEN										
			WEIS				1600.2	1603.7	2				IIIG
			WEIS				1650.2	1650.6	2				IIIG
			WEIS				1656.2	1656.4	1				DCIM
			WEIS				1657.7	1657.8	2				IIIB
			PALE				1834.1	1838.8	2				V
			SGMR				1834.5	1837.8	2				V
			SGMR				2015.0	2025.3	1				GG
			PALE				2015.1	2015.3	1				III
	2038	2400	CULG				2043.5	2044.0	1				IIIG
			PALE				2043.6	2044.0	1				III
			SGMR				2043.6	2044.0	1				V
			SGMR				2215.0	2044.0	2				V
			CULG	2216.0	2217.0	2	2216.0	2218.5	3				IIIG,V
			PALE				2216.0	2218.1	3				V
			CULG				2219.5	2249.0	2				IIIN
			PALE				2248.3	2249.1	2				III
			CULG	2302.0	2303.0	1	2301.5	2304.0	3	2302.5	2303.5	2	IIIG
			PALE				2302.0	2304.1	3				V
			LEAR				2302.1	2303.6	2				III
			SGMR				2302.1	2303.3	1				V
13	0000	0726	CULG	0052.0		1							IIIB
			CULG				0125.5	0710.0	1				IIIN
			LEAR				0125.6	0126.0	1				III
			LEAR				0156.6	0157.3	1				III
			PALE				0156.6	0157.1	2				III
			LEAR				0304.6	0308.8	1				III
			CULG				0305.0	0305.5	2				IIIG
			PALE				0305.1	0305.3	2				III
			LEAR				0335.8	0336.6	1				III
			CULG	0422.5	0425.0	2	0423.0	0425.0	2				IIIG,U
			CULG	0423.5	0424.5	1							CONT

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13			CULG	0440.0	0441.0	1							III G
			LEAR				0447.1	0447.8	1				III
			LEAR				0450.6	0451.3	1				III
			LEAR				0618.8	0619.6	1				III
	0442	1354	WEIS				0619.3	0619.7	1				III B
	0510	1735	BLEN				0710.0	0712.9	2				III GG
			WEIS				0710.1	0713.3	3				III GG
			CULG	0711.0	0713.0	1	0711.0	0713.0	3				III GG
			LEAR				0711.5	0713.5	2				V
			LEAR				0740.8	0741.1	1				III
			WEIS				0740.9	0741.2	2				III B
			BLEN				0859.3	0907.6	3				III GG
			LEAR				0904.8	0907.8	2				V
			WEIS				0904.9	0908.1	3				III G,U
			BLEN				0924.3	0924.4	2				III B
			BLEN				1037.6	1038.5	2				III GG
			WEIS				1037.7	1038.8	3				III G,RS
			WEIS				1045.5	1045.7	1				III G
			WEIS				1243.8	1244.2	1				III G
			WEIS				1311.8	1313.9	3				III G
			SGMR				1313.3	1313.6	1				V
			SGMR				1341.6	1342.0	1				V
			WEIS				1341.6	1342.1	2				III G
	1359	1815	WEIS				1517.4	1519.7	3				III G
			SGMR				1518.1	1519.8	1				V
			SGMR				1608.1	1618.6	1				GG
			WEIS				1610.8	1610.9	1				III B
			BLEN	1612.3	1612.3	2	1612.3	1612.5	2				III G
			WEIS				1612.4	1613.6	2				III G,DP
			WEIS				1616.7	1618.8	3				III G
			WEIS				1640.2	1641.9	3				III G,RS
			SGMR				1641.0	1641.6	1				V
			SGMR				1654.3	1654.6	1				V
			WEIS				1654.4	1654.7	2				III G
			PALE				2008.5	2011.8	2				III
			SGMR				2009.5	2010.3	1				III
	2037	2400	CULG				2109.0		1				III G,U
			CULG				2112.5	2113.0	3				III G,U
			PALE				2112.6	2112.8	2				III
			SGMR				2112.6	2112.8	1				III
			CULG				2114.5	2137.5	1				III N
			CULG				2310.5	2311.5	1				III G
14			LEAR				0013.8	0014.1	1				III
	0000	0736	CULG				0014.0		2				III B,U
			CULG				0133.0		1				111B,U
			LEAR				0133.0	0136.1	1				III
			CULG				0135.5		2				III G,U
	0510	1735	BLEN										
			SGMR				1723.6	1727.1	1				V
	0443	1813	WEIS				1723.7	1724.3	2				III G
			PALE				1725.6	1727.1	2				V
			WEIS				1725.7	1727.3	3				III G
			WEIS				1810.7	1811.1	1				III G
			PALE				1810.8	1815.0	2				III
			SGMR				1810.8	1814.1	1				V
			SGMR				1852.8	1853.1	1				V
	2037	2400	CULG				2326.0	2326.5	1				III G
15	0000	0736	CULG				0017.0	0018.0	2				III G
			LEAR				0017.1	0018.0	1				III
			CULG				0111.5	0113.5	3				IIIIG,U
			LEAR				0111.6	0115.8	1				III
			CULG				0115.5	0116.5	1				III G
			CULG				0148.0	0148.5	1	0148.5	0149.0	1	III G
	0444	0704	WEIS										
	0510	1735	BLEN										
			LEAR				0857.8	0923.6	1				G
	0820	1812	WEIS				0857.8	0859.3	2				III G
			WEIS				0905.9	0907.8	2				III G
			WEIS				0914.4	0916.2	2				III G

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15			WEIS				0919.2	0923.9	2				III G
			WEIS				1340.5	1341.7	1				III G
	2037	2400	CULG										
16	0515	1735	BLEN				0700.3	0701.8	2				III G
			CULG	0700.5	0702.5	1							IS
	0000	0736	CULG				0700.5	0703.0	2				III G
			LEAR				0700.5	0703.0	1				III
	0445	1001	WEIS				0700.9	0703.0	3				III G
			WEIS				0745.7	0745.9	1				III B
	1029	1435	WEIS										
	1520	1759	WEIS										
	2037	2400	CULG										
17	0000	0736	CULG										
	0557	1757	WEIS				1229.7	1229.8	1				III B
	0515	1419	BLEN				1337.9	1339.3	3				III GG
			WEIS				1338.1	1339.2	3				DCIM
			BLEN				1410.1	1412.9	3				III GG
			WEIS				1410.3	1410.5	2				III G,RS
			WEIS				1412.8	1412.9	1				DCIM
			PALE				1937.8	1938.3	1				V
			SGMR				1937.8	1938.3	1				V
			SGMR				2025.0	2025.1	1				III
			PALE				2025.8	2026.1	1				III
	2037	2400	CULG				2248.0		1				III B
			CULG				2310.5		1				III G
18	0000	0735	CULG				0113.0	0145.0	1				III G
			LEAR				0113.1	0126.1	2				G
			CULG				0118.0	0119.0	2				III G
			PALE				0122.1	0125.8	2				III
			CULG				0122.5	0126.0	3				III GG
			LEAR				0310.8	0314.8	1				III
			CULG				0323.0		2				III G
			LEAR				0323.0	0323.5	1				III
			CULG	0334.0		1	0334.0	0334.5	3				III G,V,U
			CULG				0433.0		1				III B
	0457	0918	WEIS				0502.4	0502.6	2				III G
			CULG				0502.5		2				III B
			LEAR				0508.8	0509.1	1				III
			WEIS				0508.9	0509.4	3				U
			CULG				0509.0	0509.5	3				III G
	0515	0926	BLEN										
	0940	1755	WEIS				0945.8	0946.4	2				III G
			WEIS				1015.4	1016.9	3				III G,DCIM
			WEIS				1040.4	1040.8	1				III G
			SGMR				1051.8	1053.1	1				V
			WEIS				1052.6	1056.7	3				III GG
			WEIS				1156.2	1156.8	2				III G
			WEIS				1235.3	1239.2	1				III G
			WEIS				1331.0	1336.4	3				III GG
			SGMR				1331.5	1334.5	2				V
			SGMR				1335.0	1335.1	1				III
	1300	1509	BLEN				1421.0	1422.8	1				III GG
			SGMR				1510.6	1515.3	2				V
			WEIS				1510.7	1515.5	3				III GG
			WEIS				1612.4	1612.5	2				III B
			SGMR				1655.3	1658.0	1				V
			WEIS				1655.3	1658.2	3				III G
			PALE				1913.8	1914.6	1				III
			SGMR				1913.8	1915.0	1				V
	2215	2325	CULG				2303.5		1				III G
			LEAR				2344.6	2345.1	1				III
19			LEAR				0154.8	0155.0	1				III
	0053	0735	CULG	0307.0	0310.0	1	0307.0	0308.5	2				III G,V
			LEAR				0307.8	0308.6	1				III
			CULG				0432.0		1				III B
			CULG				0513.5	0523.5	3				III G,N,U
	0459	1648	WEIS				0513.7	0514.0	2				III G

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19			LEAR				0513.8	0526.0	1				G
			WEIS				0520.1	0520.7	2				IIIG
			WEIS				0523.0	0523.7	1				IIIG
			LEAR				0717.3	0718.1	1				III
			CULG				0717.5	0718.0					
			WEIS				0717.6	0718.2	2				IIIG
			WEIS				0951.8	0951.9	2				IIIB,RS
			WEIS				1032.3	1033.4	3				IIIG
			WEIS				1037.7	1038.9	2				IIIG
			SGMR				1324.3	1326.3	2				V
			WEIS				1324.4	1326.8	3				IIIG,U
			WEIS				1550.4	1550.7	1				IIIG
	2035	2400	CULG	2232.5	2245.0	1							IIIB
			CULG				2234.0	2242.0	2				IIIG,N
20	0000	0735	CULG				0125.5	0126.0	3				IIIG
			LEAR				0125.6	0126.8	1				V
			PALE				0125.6	0125.8	2				III
			CULG	0439.0		1	0439.0		1				IIIB
			CULG	0509.5	0518.0	1	0509.5	0516.0	1				IS
	0457	1751	WEIS				0509.6	0510.3	1				DCIM
			WEIS				0513.7	0516.6	1				DCIM
	0849	0945	BLEN										
			WEIS				1101.0	1101.4	1				IIIG
			WEIS				1119.4	1119.6	1				IIIG
			WEIS				1214.6	1214.8	1				IIIB
			SGMR				1428.8	1429.0	1				III
			WEIS				1429.8	1430.1	2				IIIB
			SGMR				1451.0	1451.1	1				V
			WEIS				1451.1	1451.4	2				IIIG
			WEIS				1516.5	1516.8	2				IIIG,U
	1324	1735	BLEN				1525.0	1535.0	3				IIIGG,DC
			WEIS				1525.7	1528.7	3				DCIM,U,RS
			WEIS				1528.3	1529.5	3				IIIG
	2035	2400	CULG										
21	0000	0735	CULG										
	0520	1720	BLEN										
	0501	1158	WEIS				0539.1	0539.8	1				IIIG
			WEIS				0846.7	0846.8	2				IIIG
	1323	1750	WEIS				1431.9	1432.2	1				IIIB
	2035	2400	CULG										
22	0000	0735	CULG										
	0520	1151	BLEN										
	1220	1720	BLEN										
	0503	1747	WEIS				1532.0	1532.9	1				IIIG
	2035	2400	CULG										
23	0000	0709	CULG										
	0503	0741	WEIS										
	0520	1100	BLEN										
	0749	1746	WEIS										
	1213	1720	BLEN										
	2035	2400	CULG										
			CULG				2324.5	2344.5	3				II H
			CULG	2324.5	2326.0	1							CONT
			CULG	2324.5	2326.0	1							IS
			CULG							2325.5	2329.0	1	SWF
			LEAR				2326.8	2343.1	2				II
			PALE				2328.3	2341.3	2				II
24	0000	0734	CULG										
	0520	1714	BLEN										
	0639	1652	WEIS				1127.7	1128.0	1				IIIB
			WEIS				1450.0	1451.4	1				IIIG
			WEIS				1453.2	1453.5	2				IIIG
			WEIS				1458.7	1458.9	1				IIIB
			PALE				2002.3	2027.1	2				GG
	2035	2400	CULG										
25	0000	0714	CULG										

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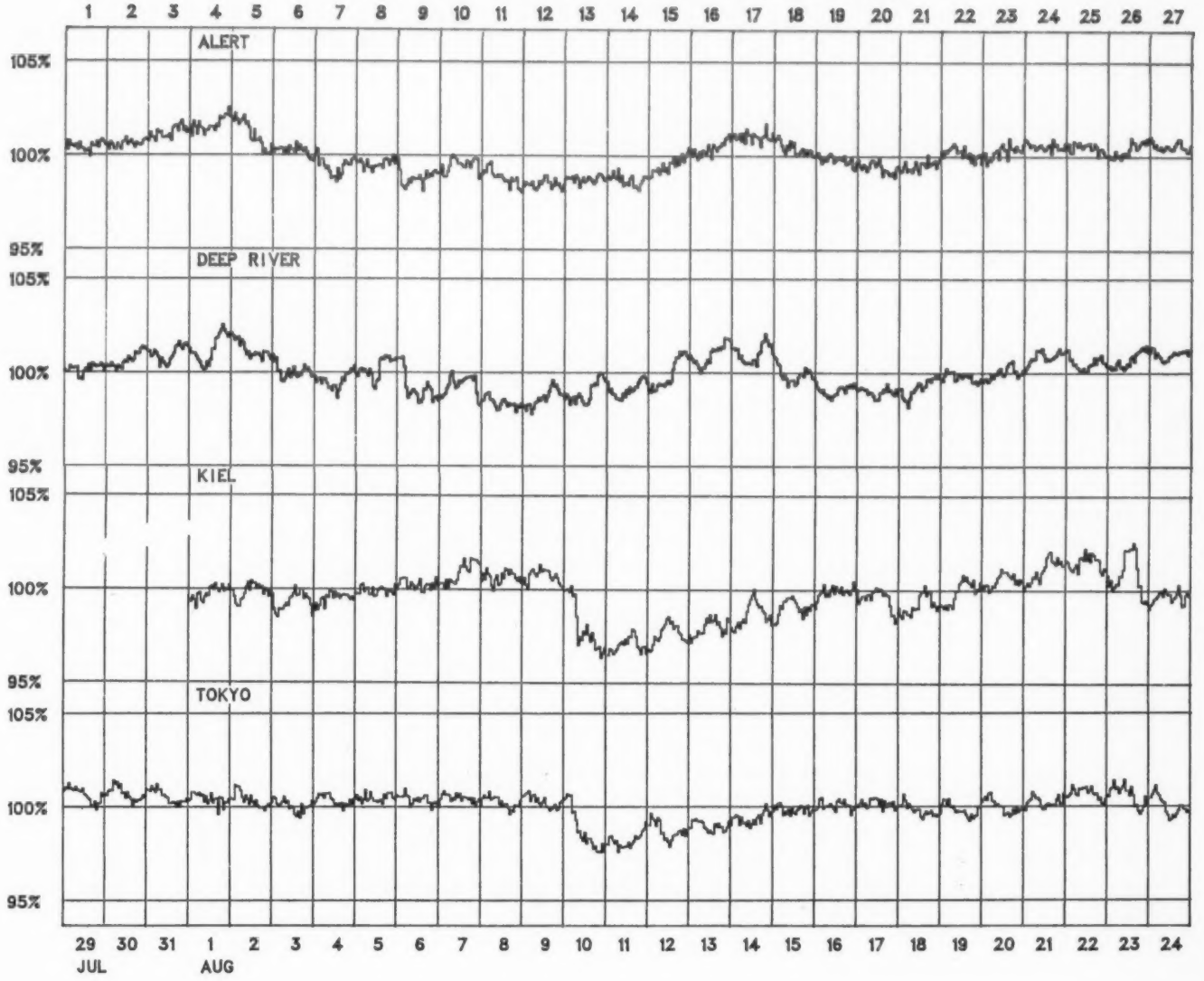
25			LEAR				0601.1	0601.8	1				V
	0701	1114	WEIS				1030.4	1030.7	1				IIIB
	1135	1745	WEIS										
	2034	2400	CULG				2136.5	2137.0	1				IIIB,V
			CULG				2208.5		1				IIIB,U
			CULG				2226.5	2227.5	3	2227.0	2227.5	1	IIIG,U
			LEAR				2253.3	2256.8	1				III
			CULG				2253.5	2254.0	3				IIIB,V
26	0000	0734	CULG										
	0506	1428	WEIS										
	1433	1743	WEIS										
	2034	2400	CULG										
27	0000	0733	CULG										
	0508	1741	WEIS										
	2033	2400	CULG										
28			LEAR				0257.8	0258.1	1				III
	0000	0733	CULG				0258.0		1	0258.0		1	IIIB
	0509	0921	WEIS										
	0924	1738	WEIS				1453.4	1456.1	2				IIIG
			SGMR				1453.8	1456.0	1				V
	2034	2400	CULG										
29	0000	0733	CULG				0021.5	0022.5	1				IIIG
			LEAR				0021.8	0022.3	1				III
	0510	1655	WEIS										
	2033	2400	CULG										
30	0000	0721	CULG										
	0555	1732	WEIS										
	2033	2400	CULG										
31	0000	0721	CULG										
	0514	0822	WEIS										
	0833	1338	WEIS										
	1343	1437	WEIS										
	1453	1732	WEIS										
	2032	2239	CULG										

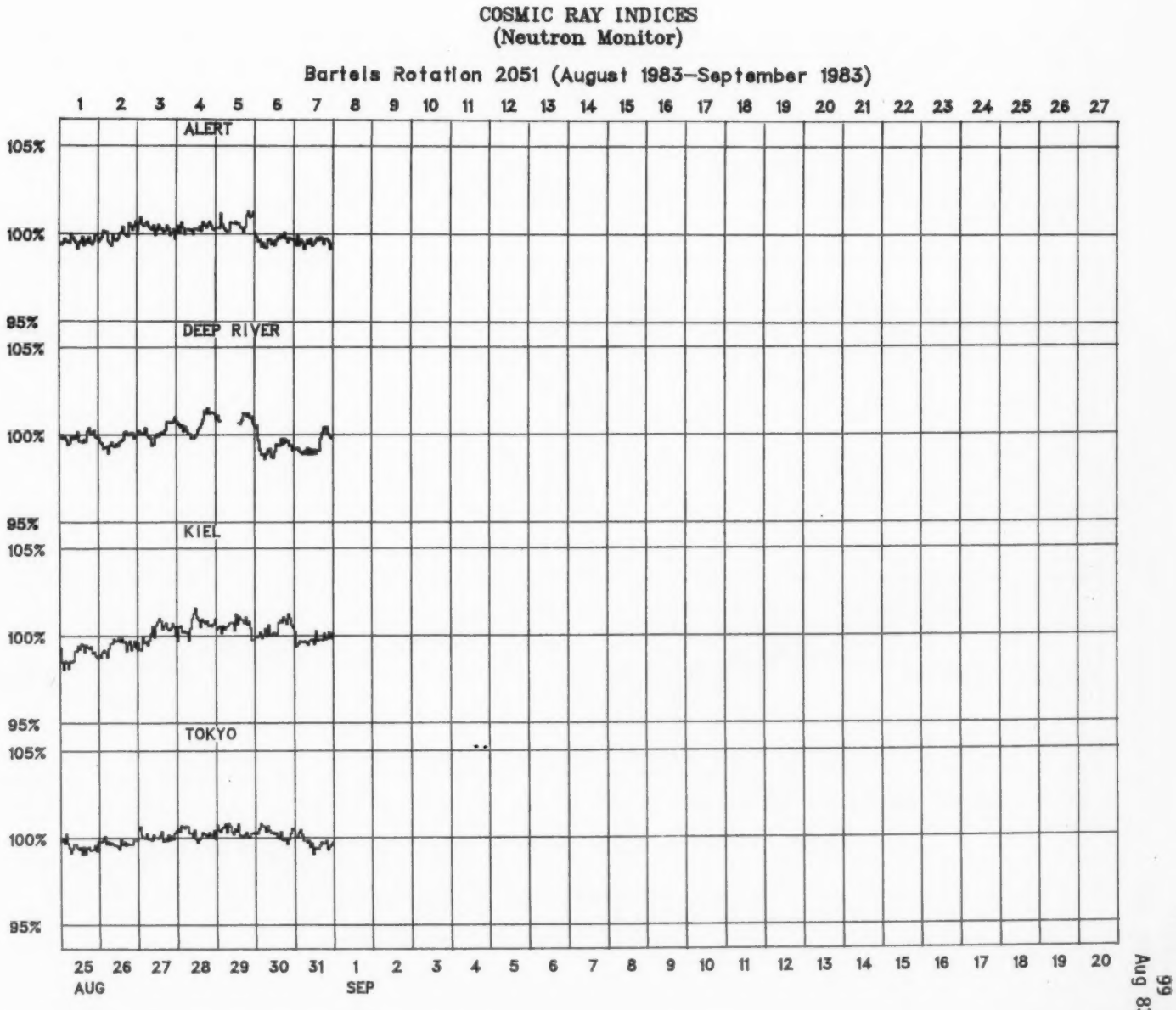
The symbols used under the column heading SPECTRAL TYPE have the following definitions:

B = Single burst
G = Small group (< 10) of bursts
GG = Large group (> 10) of burst
C = Underlying continuum (particularly with Type I)
S = Storm in the sense of intermittent but apparently connected activity
N = Intermittent activity in this period
U = U-shaped burst of Type III
RS = Reverse slope burst
DP = Drifting pairs
DC = Drifting Chains
H = Herringbone
W = Weak
P = Pulsations
CONT = Continuum
UNCLF = Unclassified activity
DCIM = Fast drift

COSMIC RAY INDICES
(Neutron Monitor)

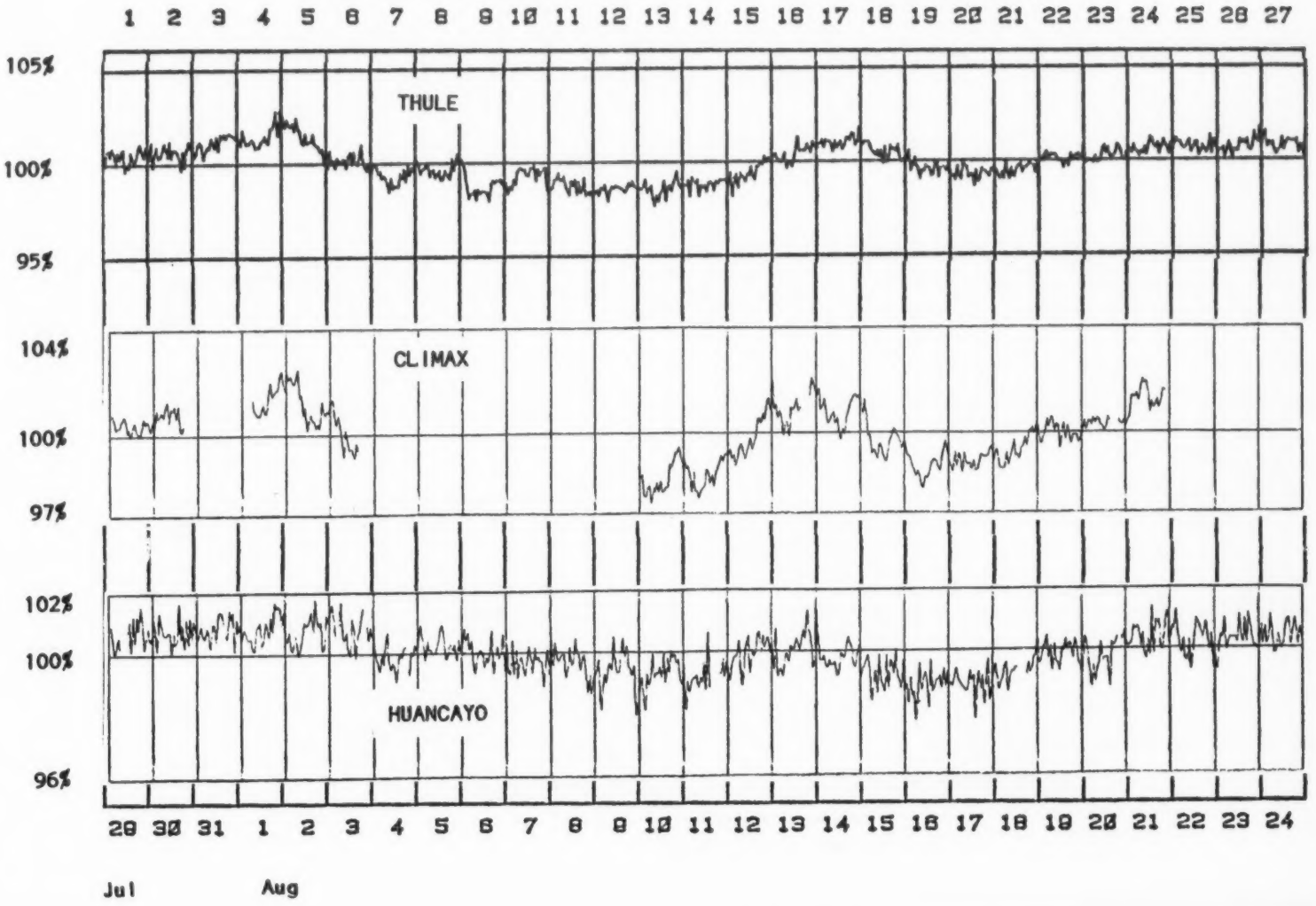
Bartels Rotation 2050 (July 1983–August 1983)




COSMIC RAY INDICES
(Neutron Monitor)
Bartels Rotation 2051 (August 1983–September 1983)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27
ALERT
105%
100%
95%
DEEP RIVER
105%
100%
95%
KIEL
105%
100%
95%
TOKYO
105%
100%
95%
25 26 27 28 29 30 31 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
AUG
SEP
99
Aug 83

COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2050 (July 1983–August 1983)



COSMIC RAY INDICES
(Neutron Monitor)

AUGUST 1983

Day	THULE Average (cts/h)/100	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256
1	4207	6816.1	6429.7	5643.3	3793.9(38)	3550.1
2	4204	6784.0	6428.0	5648.3	3785.5	3547.7
3	4150	6721.8	6353.8	5619.3	3742.4(32)	3536.7
4	4118	6667.4	6322.7	5627.9	----	3546.9
5	4131	6677.5	6364.6	5651.5	----	3551.6
6	4095	6627.9	6302.0	5670.2	----	3548.8
7	4116	6672.4	6307.2	5706.2	----	3551.3
8	4093	6628.9	6248.3	5694.0	----	3543.5
9	4087	6606.4	6265.1	5696.6	----	3544.8
10	4086	6624.7	6284.0	5547.1	3677.8	3492.0
11	4096	6621.5	6295.4	5488.2	3683.0	3471.2
12	4123	6675.7	6347.3	5522.5	3734.3	3489.8
13	4163	6734.3	6412.1	5541.8	3777.5	3498.2
14	4189	6776.8	6418.0	5582.6	3771.5	3512.5
15	4166	6735.0	6346.0	5603.4	3732.9	3529.0
16	4131	6694.8	6292.3	5651.9	3695.8	3536.8
17	4118	6667.5	6286.4	5631.5	3701.9	3540.5
18	4126	6674.8	6302.9	5613.3	3717.1	3528.2
19	4152	6719.3	6337.9	5651.6	3741.8	3527.8
20	4156	6724.0	6350.8	5687.4	3753.4	3535.1
21	4172	6745.3	6405.7	5718.0	3788.0	3542.4
22	4176	6739.2	6385.2	5740.6	----	3559.0
23	4176	6733.6	6396.1	5704.4	----	3555.4
24	4180	6745.4	6415.3	5638.7	----	3535.9
25	4177	6746.7	6414.1	5634.3	----	3524.4
26	4191	6772.4	6400.3	5660.8	----	3531.7
27	4206	6796.0	6436.2	5704.3	3816.3(6)	3545.1
28	4208	6796.1	6461.2	5729.2	3821.8	3551.5
29	4218	6814.2	6483.5(13)	5727.3	3821.9	3555.5
30	4175	6750.7	6381.2	5716.5	3765.4	3551.6
31	4177	6744.4	6384.5	5681.6	3762.8	3532.0
Mean	4154	6717.3	6363.2	5649.5	3750.8	3534.4

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available. For Climax and Huancayo, parenthese enclose the number of section hours whenever the sum of both sections falls below 40 hours.

GEOMAGNETIC ACTIVITY INDICES

AUGUST 1983

Day		Kp Three-Hourly Indices 1	2	3	4	5	6	7	8	Sum	Ap	Cp	Km Three-Hourly Indices 1	2	3	4	5	6	7	8	Am	N	aa Provisional S	M
1	Q6	1-	2-	2	1-	1+	1-	1+	2+	11-	5	0.2												
2	D3	4+	4	5+	3+	5+	4-	4+	4-	34	33	1.3												
3		4-	3-	1+	2+	3+	3	4+	4-	24+	17	0.9												
4	Q7	2	2+	1+	1	1	1-	1+	2-	11+	5	0.2												
5	Q2	1-	0+	0+	0	0+	0+	1-	1+	4	2	0.0												
6	Q8	1	2	0+	1-	2	2	2+	2-	12	6	0.3												
7		1	1-	2	2-	2	2+	4+	6	20	18	1.0												
8	D1	7+	8-	6+	4+	2+	2+	1+	3-	34+	62	1.7												
9		5-	3	2-	2-	2	2	1+	1	17+	11	0.6												
10	Q4	1-	2+	1	2-	2-	1	0+	1+	10	5	0.2												
11	Q9	2	2-	1-	1+	2-	2-	3-	1+	13	6	0.3												
12		3-	4+	4-	3	4	4-	5	4+	31-	26	1.2												
13		4	3+	4+	5	4	2	3-	4+	30-	25	1.2												
14		3	2-	2-	1	2	3-	3	2+	17+	9	0.5												
15		3	2	1	3-	2+	3+	2-	3-	19-	10	0.6												
16	Q3	1+	0	0	0+	2-	1+	2+	2	9	4	0.1												
17	Q0	2+	2	1+	2-	1+	1	1+	2+	13+	6	0.3												
18	Q1	1-	0+	0	0+	0+	0+	0	1-	3-	2	0.0												
19		0	0+	0+	2	3+	4	2+	2+	15-	9	0.5												
20		1	3-	2-	2-	2	3-	4	3-	18+	11	0.6												
21		4+	3	3+	5-	3+	4+	4-	4	31-	25	1.2												
22		2-	2-	2	3	3-	3-	5	3-	21+	15	0.8												
23	D4	3	6	5-	4	4	3+	5-	3-	32+	32	1.3												
24		3+	4+	4	4+	3+	3+	4-	3+	30-	23	1.1												
25	D2	6	4	5+	4	4	3+	5-	3	34+	36	1.4												
26		5-	5-	3	3+	3	4+	5	2-	30-	26	1.2												
27	Q5	2+	0+	0+	1-	2+	2-	1+	1-	10-	5	0.2												
28		3-	2	1+	2+	2+	1+	3-	2-	16+	8	0.4												
29		3-	2+	1+	2+	3	3+	4	5-	24-	17	0.9												
30		4+	4	4-	2+	3-	3	3-	3+	26	18	1.0												
31	D5	5	4-	4	3+	3-	5-	4+	4+	32	29	1.3												
Mean											16	0.7												

THESE DATA NOT AVAILABLE

AT TIME OF PUBLICATION

Day	Kn Three-Hourly Indices 1	2	3	4	5	6	7	8	An	Ks Three-Hourly Indices 1	2	3	4	5	6	7	8	As

THESE DATA NOT AVAILABLE

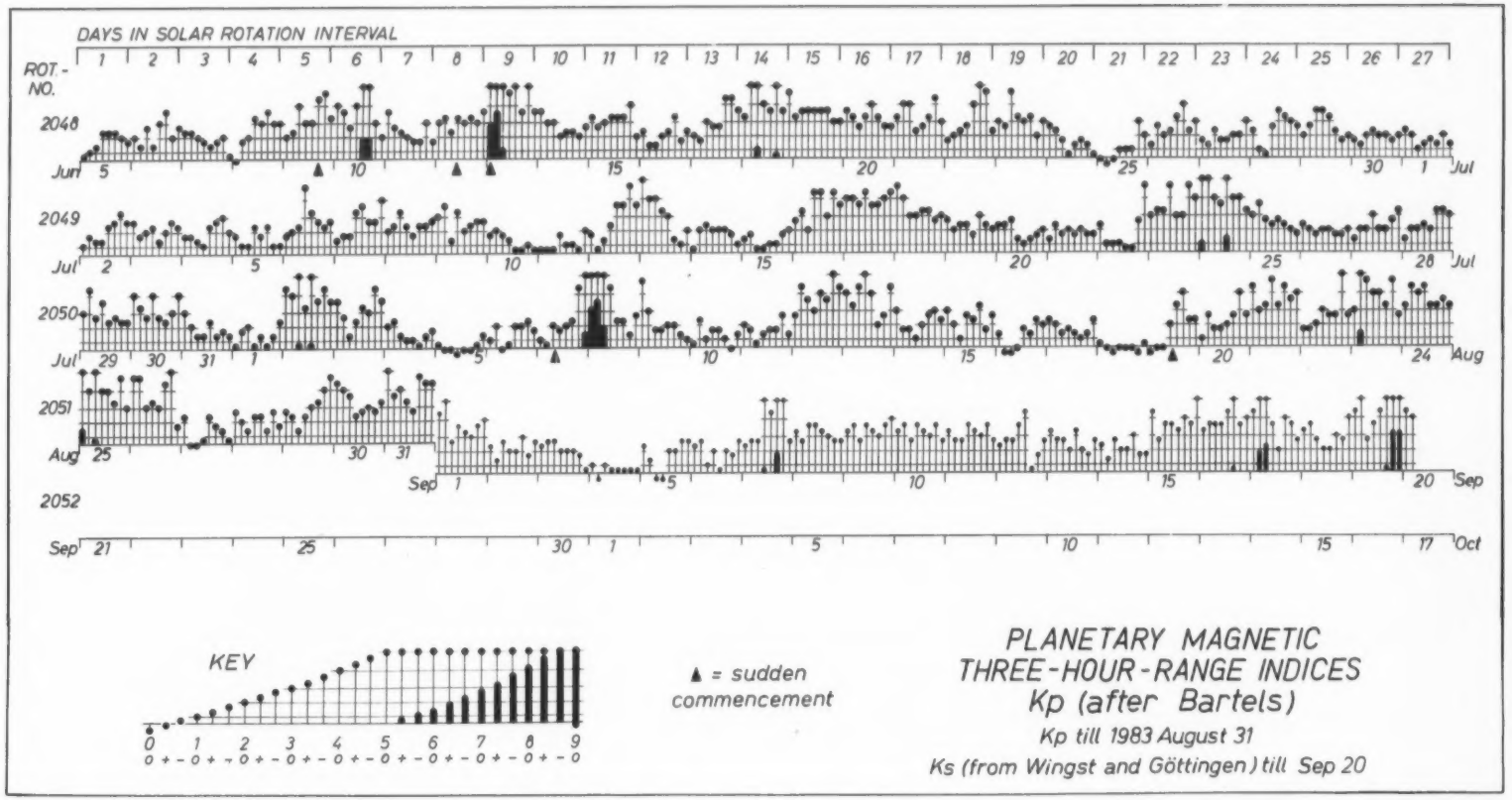
AT TIME OF PUBLICATION*

The Geophysikalisches Institut, University of Goettingen, prepares the quiet (Q) and disturbed (D) days, the geomagnetic planetary 3-hour-range indices (Kp), the average amplitude (Ap) and the magnetic character figures (Cp). The 10 most quiet days (Q1-Q10) and the five most disturbed days (D1-D5) are ordered from most quiet and from most disturbed, respectively. A and K mark quiet days that are not really quiet; an asterisk marks disturbed days that are not really disturbed. Geomagnetic 3-hour indices Km, Kn, Ks; daily mean values Am, An, As; and indices aa are prepared by M. Menvielle of the Institut de Physique du Globe, Paris, France. For the aa indices, daily north (N) and south (S) values and half-daily antipodal mean (M) values are given; quiet 24- and 48-hour intervals centered on 1200 UT are indicated by C if they are really quiet and by K if they are quiet with some slightly disturbed

DAILY AVERAGE INDICES Ap

DAY	1982 SEP	OCT	NOV	DEC	1983 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	9	28	36	2	11	11	21	20	24	13	6	5
2	12	24	32	4	7	5	86	16	14	8	9	33
3	21	10	21	9	11	7	36	15	10	6	8	17
4	32	10	8	13	9	59	26	16	26	3	8	5
5	39	9	9	11	6	143	28	17	24	6	6	2
6	199	19	11	3	3	47	12	35	14	11	14	6
7	88	35	4	29	4	43	7	34	8	6	14	18
8	12	21	12	27	9	18	6	25	11	12	10	62
9	50	6	8	18	20	18	8	19	6	20	12	11
10	10	15	11	46	78	23	7	22	8	37	5	5
11	13	14	20	20	11	24	24	8	50	10	4	6
12	14	15	16	14	18	33	53	11	52	16	16	26
13	15	34	18	6	8	35	24	36	37	70	19	25
14	14	30	12	8	8	28	26	45	23	12	6	9
15	12	8	13	11	22	25	15	59	20	17	5	10
16	12	14	9	13	25	30	11	33	9	8	21	4
17	11	21	6	62	25	16	11	19	64	17	26	6
18	30	23	12	41	32	14	20	11	12	37	20	2
19	28	17	10	34	17	10	28	9	5	20	9	9
20	24	14	6	46	14	41	32	13	10	17	7	11
21	76	11	25	37	12	36	12	12	29	20	6	25
22	135	8	30	42	8	21	9	17	51	20	10	15
23	26	5	36	26	10	17	9	17	38	17	23	32
24	22	5	83	19	22	14	10	61	77	6	40	23
25	13	15	54	14	16	6	50	32	11	5	12	36
26	84	30	26	9	12	5	13	28	10	13	7	26
27	42	16	17	18	10	7	3	14	11	8	10	5
28	14	10	28	21	10	8	37	12	5	12	11	8
29	9	35	32	20	16		40	39	5	13	15	17
30	12	27	13	15	19		27	26	9	7	18	18
31		34		7	13		28		11		7	29
Mean	36	18	21	21	16	27	23	24	22	16	12	16

GEOMAGNETIC ACTIVITY INDICES



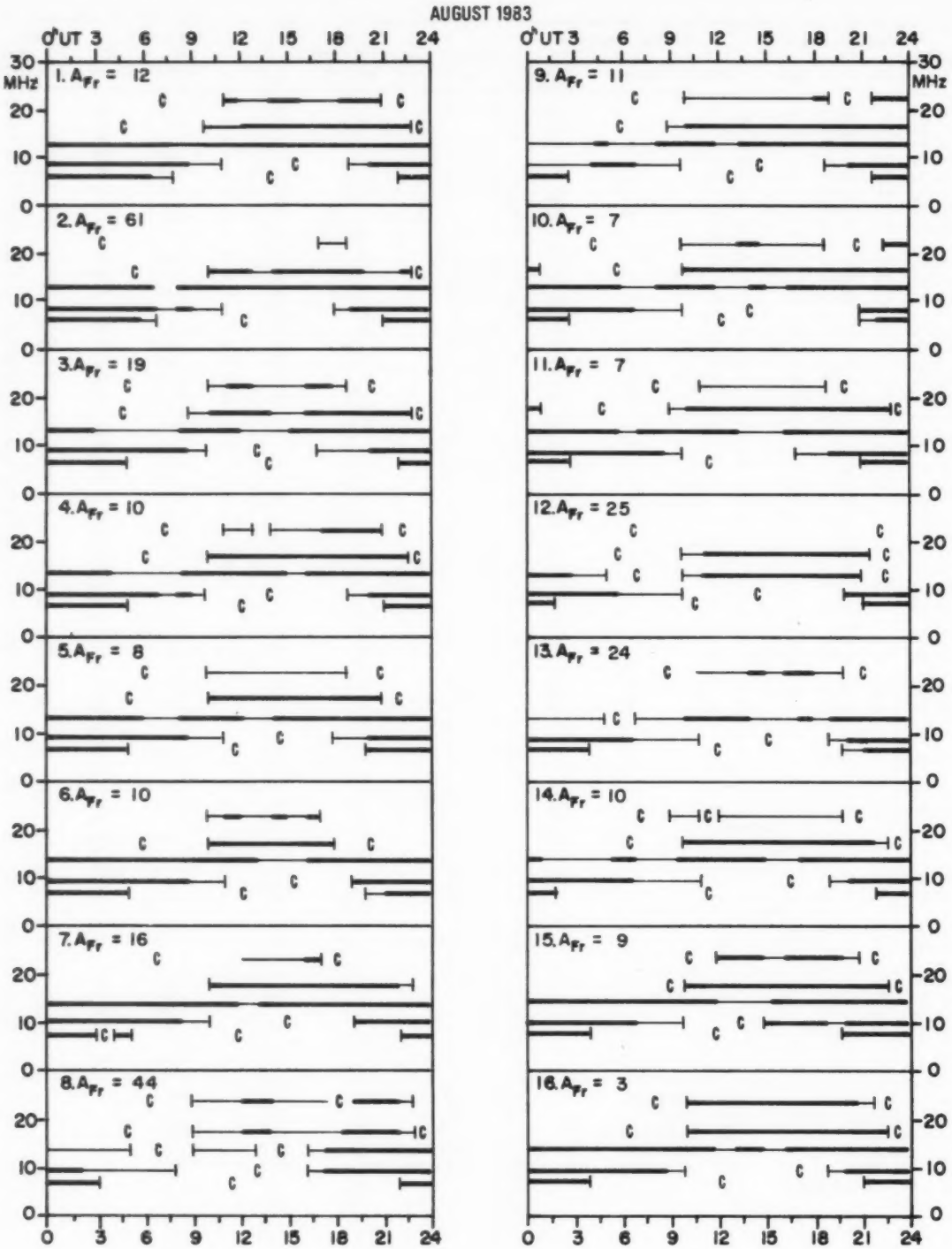
PRINCIPAL MAGNETIC STORMS

AUGUST 1983

Sta	Geomag Lat	Commencement Day	Time (UT)	Type	SC Amplitudes D (Min)	H (Gamma)	Z (Gamma)	Maximum 3-Hour K Index Day(3-Hour Periods)	K	Ranges D (Min)	H (Gamma)	Z (Gamma)	End Day	Hour (UT)
BJI	28.5N	01	20--	..	..	..	..	02(3)	6	15	120	46	03	24
JAI	17.3N	01	2000	..	..	..	..		-	6	141	32	03	01
SHL	14.7N	01	2000	..	..	..	..		-	6	142	28	03	01
UJJ	13.5N	01	2000	..	..	..	..		-	5	142	27	03	01
ABG	09.5N	01	2000	..	..	..	..	02(5)	6	4	148	32	03	01
HYB	07.6N	01	1900	..	..	..	..	02(5)	6	6	165	24	03	23
ANN	01.5N	01	2000	..	..	..	..		-	4	191	74	03	01
TRD	01.1S	01	2000	..	..	..	..		-	3	219	106	03	01
PMG	18.6S	02	00--	..	..	..	..	02(3,5)	5	5	150	60	03	03
HER	33.7S	02	00--	..	..	..	..	02(7)	5	26	114	78	03	01
CNB	43.9S	02	00--	..	..	..	..	02(3,5,6,7)	4	17	118	52	02	22
SIT	60.0N	07	17--	..	..	..	..	08(2)	8	--	--	780	08	11
WIT	54.2N	07	0827	SC*	2 *	- 12 *	0	08(1)	8	36	265	120	08	10
FRD	49.6N	07	0827	SC	- 1	11	- 1	08(2)	7	82	258	152	10	06
BJI	28.5N	07	0828	SC	.2	18	2	08(1)	7	20	238	47	08	20
HON	21.1N	07	0827	SC		11	3	08(3)	6	16	234	53	08	16
JAI	17.3N	07	0827	SC					-	--	--	--	09	19
SHL	14.7N	07	0827	SC	- .4	12	3		-	12	196	43	09	19
UJJ	13.5N	07	0827	SC	- .4	17	- 5		-	--	218	66	09	19
ABG	09.5N	07	0827	SC	- .6	13	- 4	08(1)	7	12	234	74	09	19
HYB	07.6N	07	0828	SC	- .3	16	- 1	09(1,2)	7	11	252	46	09	18
ANN	01.5N	07	0827	SC	- .8	23	9		-	10	236	92	09	19
TRD	01.1S	07	0827	SC	- .1	25	27		-	8	237	141	09	19
PMG	18.6S	07	19--	..	..	..	..	08(1,2)	5	5	210	60	08	17
HER	33.7S	07	18--	..	..	..	..	08(2)	6	29	119	100	08	12
GNA	43.2S	07	20--	..	..	..	..	08(1,2,4)	5	30	180	100	08	13
CNB	43.9S	07	19--	..	..	..	..	08(1)	5	16	203	70	08	11
KGL	56.5S	07	0826	SC	- 2	- 10	- 2	08(2)	9	140	775	480	08	15
COL	64.6N	12	02--	..	..	..	..	13(4,5)	6	200	1230	610	13	14
HYB	07.6N	12	0700	..	..	..	..	12(7),13(4)	5	7	101	26	13	23
HYB	07.6N	19	1103	SC	- .2	16	- 1	19(5,6)	5	1	104	10	19	23
KGL	56.5S	19	1101	SC	- 1	5	3	19(6),20(7,8) 21(1,5,6,7)	4	19	60	80	22	01
HYB	07.6N	20	1400	..	..	..	..	21(4,6)	4	8	95	21	21	23
COL	64.6N	21	01--	..	..	..	..	21(4)	7	175	1350	640	22	01
FRD	49.6N	21	----	..	..	..	..	23(2),25(1)	6	30	110	79	27	--
HER	33.7S	22	19--	..	..	..	..	23(2)	5	34	79	104	23	21
COL	64.6N	23	00--	..	..	..	..	24(4)	7	160	1360	1010	26	22
HYB	07.6N	23	0200	..	..	..	..	25(3,4)	5	8	95	33	26	21
WIT	54.2N	24	1100	..	..	..	..	25(1)	6	33	190	80	25	21
CNB	43.9S	24	03--	..	..	..	..	24(4),25(3)	5	15	78	40	26	21
FRD	49.6N	29	18--	..	..	..	..	31(3),01(1,2)	5	24	133	50	01	--
HYB	07.6N	29	1000	..	..	..	..	29(7)	5	6	86	30	01	05
HER	33.7S	29	21--	..	..	..	..	30(1)	5	13	66	66	30	04
KGL	56.5S	29	1300	..	..	..	..	31(6)	5	--	--	--	01	15
HER	33.7S	31	16--	..	..	..	..	31(6)	5	10	79	86	01	01

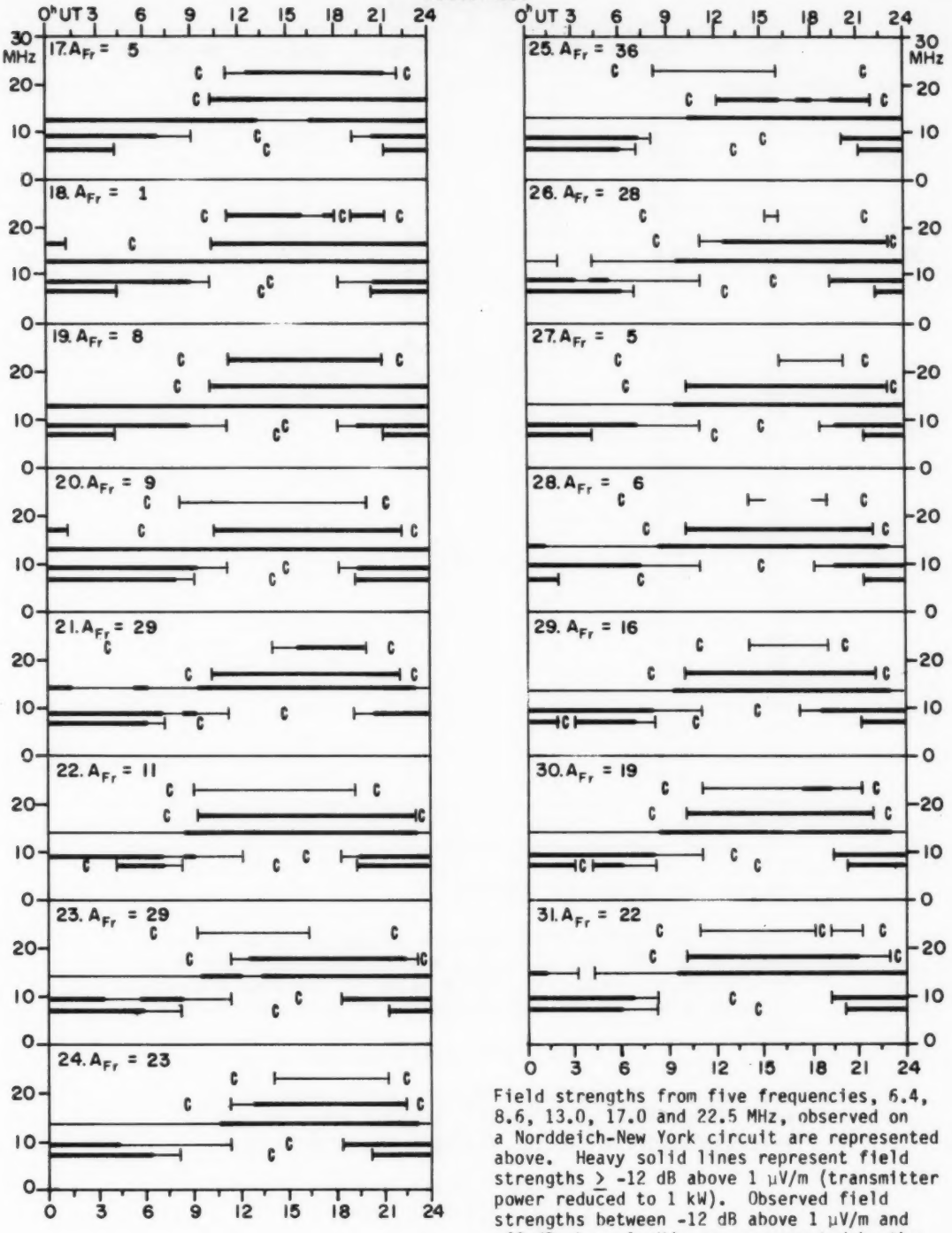
ABG	ALIBAG	GNA	GNANGARA	HYB	HYDERABAD	SHL	SHILLONG
ANN	ANNAMALAINAGAR	GUA	GUAM	IRK	IRKUTSK	SIT	SITKA
BJI	BEIJING	HER	HERMANUS	JAI	JAIPUR	TRD	TRIVANDRUM
CNB	CANBERRA	HON	HONOLULU	KGL	KERGUELEN	UJJ	UJJAIN
COL	COLLEGE	HUA	HUANCAYO	PMG	PORT MORESBY	WIT	WITTEVEEN
FRD	FREDERICKSBURG						

TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH



TRANSMISSION FREQUENCY RANGES -- NORTH ATLANTIC PATH

AUGUST 1983



Field strengths from five frequencies, 6.4, 8.6, 13.0, 17.0 and 22.5 MHz, observed on a Norddeich-New York circuit are represented above. Heavy solid lines represent field strengths $\geq$ -12 dB above 1 μV/m (transmitter power reduced to 1 kW). Observed field strengths between -12 dB above 1 μV/m and -40 dB above 1 μV/m are represented by the fine line.

RADIO PROPAGATION QUALITY INDICES

AUGUST 1983

Day	Tokyo	New York	Teheran	Oslo	Bracknell
1	7.2	5.7	5.6	8.3	4.1
2	5.5	4.2	4.0	7.3	3.5
3	6.2	5.0	4.1	3.9	5.0
4	6.9	5.5	5.1	6.1	5.1
5	8.3	5.9	4.8	8.5	6.4
6	7.5	6.8	5.1	3.7	5.0
7	7.5	5.5	4.2	4.4	5.3
8	4.6	3.2	4.0	1.8	3.1
9	8.1	6.7	8.7	4.8	6.4
10	7.5	6.4	5.8	4.5	4.7
11	7.8	6.7	6.9	5.2	6.7
12	5.3	4.6	5.8	3.5	4.0
13	5.2	5.0	4.9	3.1	3.7
14	6.3	7.0	6.9	4.1	4.7
15	5.7	7.4	6.8	6.3	6.6
16	7.6	8.7	8.5	7.3	9.6
17	6.6	8.8	8.3	8.8	8.3
18	7.5	8.4	7.2	7.7	9.3
19	8.2	9.3	6.4	6.9	8.4
20	6.5	7.4	5.4	5.8	4.6
21	5.4	4.9	7.1	4.8	4.3
22	5.2	4.5	5.3	4.7	4.0
23	3.6	3.9	7.0	4.1	3.9
24	3.9	3.8	6.4	4.8	4.3
25	3.6	2.9	6.3	3.8	3.4
26	4.6	3.6	5.3	4.1	3.5
27	5.2	4.9	7.0	4.8	3.8
28	4.9	5.5	7.0	4.4	4.2
29	5.6	6.0	6.9	5.4	3.9
30	4.2	5.8	5.1	4.1	3.9
31	4.2	5.5	4.4	4.5	3.3
Mean	6.0	5.8	6.0	5.2	5.1

CALCULATION OF QUALITY INDICES (Q)

From all 24 hourly field strength values and from all frequencies of the same circuit a median field strength value is calculated (FD). This daily value is compared with the average value (FA) of the preceeding 27 days (1 sun rotation).

$$Q = 6.0 + 20 \log(FD/FA)/3.0$$

The quality indices vary from 0.0 to 9.9 where 6.0 is normal. Conditions are "normal" (index = 6.0), if they correspond to the average of the preceeding 27 days.

SCALE FOR QUALITY INDICES

0.0 - 1.0 = very poor
1.1 - 3.0 = poor
3.1 - 5.0 = fair
5.1 - 7.0 - normal
7.1 - 9.0 = good
9.1 - 9.9 = very good

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COSMIC RAY MEASUREMENTS BY NEUTRON MONITOR July 1983
Alert/Deep River/Kiel/Climax/Tokyo/Huancayo
Daily Counting Rates. 113
Chart of Variations 114-117

PIONEER XII SOLAR WIND

December 1982

DATE Dec. '82	TIME (UT)	ESV (°)	U_{H+} (Km/sec)	N_{H+} (H+/CC)	T_{H+} ($\times 10^6$ ° K)
1	1411	164	752.	9.9	.011
2	0829		730.	14.5	.088
3	1231		1047.	25.6	.703
4	1235		745.	11.1	.091
5	1338		1108.	10.5	.388
6	1214		976.	10.7	.051
7	1234		763.	34.5	.012
8	1318		922.	6.5	.025
9	1218		652.	3.6	.164
10	1203		586.	9.3	.201
11	1240		593.	7.6	.198
12	1346		442.	10.8	.185
13	1323		419.	14.7	.142
14	1314	155	377.	15.5	.070
15	1310		451.	14.8	.227
16	1317		446.	20.3	.116
17	1221		426.	40.4	.111
18	1311		421.	5.1	.103
19	1204		401.	7.2	.128
20	1443		555.	18.5	.233
21	1332		422.	7.7	.052
22	1417		409.	37.1	.049
23	1206		325.	26.6	.054
24	1151		374.	14.7	.051
25	—				
26	1308		339.	29.3	.094
27	1323		331.	62.5	.105
28	1209		742.	9.2	.220
29	1249		439.	17.4	.016
30	1204		397.	62.3	.067
31	1306	147	668.	8.4	.466

PIONEER XII SOLAR WIND

January 1983

DATE Jan '83	TIME (UT)	ESV (°)	U_{H+} (Km/sec)	N_{H+} (H^+/CC)	T_{H+} ($\times 10^6$° K)
1	0225	147	722.	2.8	.062
2	0146		479.	5.7	.065
3	0157		362.	31.9	.013
4	0211		352.	29.5	.146
5	0907		486.	22.5	.284
6	0150		584.	10.0	.375
7	0153		560.	10.2	.272
8	0201		656.	5.7	.281
9	0223		539.	12.4	.240
10	0136		477.	17.2	.184
11	0142		401.	20.0	.105
12	0932		381.	33.7	.196
13	0159		498.	39.6	.429
14	0144		482.	21.2	.086
15	0208	138	441.	10.9	.041
16	0200		637.	7.4	.147
17	0158		505.	19.0	.238
18	0228		646.	15.7	.453
19	0935		726.	9.6	.690
20	0233		691.	8.8	.240
21	0141		507.	10.1	.126
22	0138		371.	20.1	.064
23	0202		352.	27.2	.219
24	0237		364.	27.4	.093
25	0157		398.	20.4	.083
26	0237		419.	33.2	.169
27	0148		409.	24.7	.101
28	0158		380.	19.2	.053
29	0133		392.	30.4	.081
30	0129	130	409.	79.2	.016
31	0138		390.	30.1	.056

PIONEER XII SOLAR WIND

February 1983

DATE Feb '83	TIME (UT)	ESV (°)	U_{H+} (Km/sec)	N_{H+} (H^+/CC)	T_{H+} ($\times 10^6$°K)
1	0157		374.	33.7	.188
2	0148		433.	22.8	.187
3	0202		532.	15.4	.428
4	0220		699.	8.4	.369
5	0136		689.	5.3	.302
6	0220		689.	5.5	.385
7	0142		526.	6.1	.066
8	0140		399.	8.2	.024
9	0132		330.	60.0	.022
10	0140		327.	46.3	.172
11	0140		547.	10.8	.313
12	0206		536.	15.7	.134
13	0153		569.	17.7	.206
14	0148		424.	12.7	.110
15	0142	121	350.	27.3	.086
16	0210		305.	47.4	.035
17	0145		531.	20.6	.465
18	0138		466.	13.8	.293
19	0139		348.	31.2	.028
20	0229		401.	80.1	.273
21	0144		463.	13.3	.048
22	0200		405.	22.0	.063
23	0017		377.	30.2	.132
24	0153		426.	20.5	.070
25	0146		574.	35.9	.057
26	0106		373.	31.4	.638
27	0230		368.	17.5	.057
28	0203	112	375.	31.3	.065

COSMIC RAY INDICES
(Neutron Monitor)

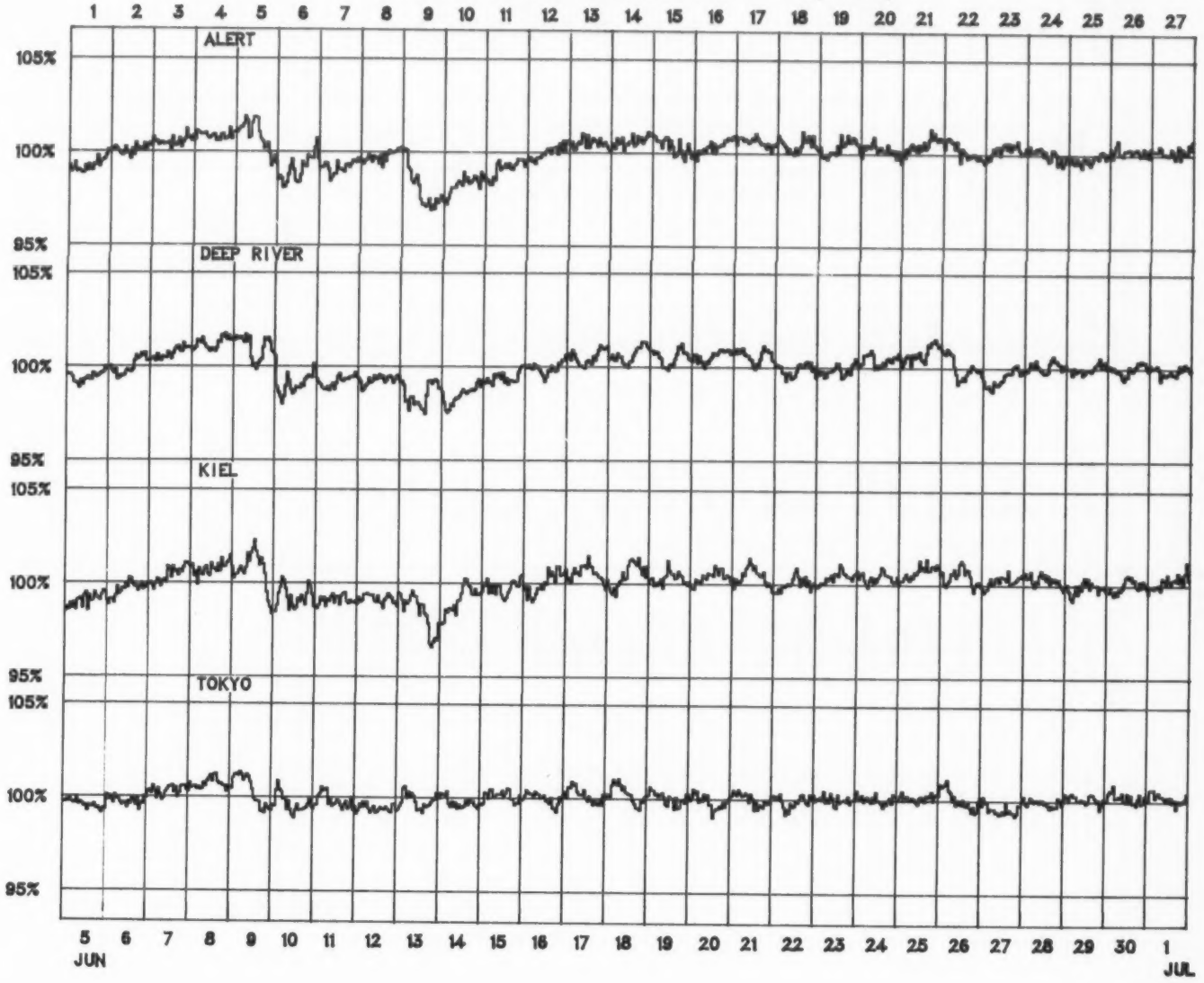
JULY 1983

Day	ALERT Average (cts/h)/100	DEEP RIVER Average (cts/h)/300	KIEL Average (cts/h)/100	CLIMAX Average (cts/h)/100	TOKYO Average (cts/h)/256	HUANCAYO Average (cts/h)/100
1	6617.0	6253.8	5681.9	3680.2	3533.2	1736.6
2	6640.3	6276.7	5673.1	3696.7	3537.1	1736.2
3	6661.9	6300.6	5707.5	3705.5	3539.2	1741.5
4	6671.4	6441.3	5736.1	3724.1	3551.9	1747.9
5	6687.7	6347.8	5756.5	3726.5	3547.6	1747.6
6	6714.5	6381.6	5763.2	3737.0	3553.4	1746.5
7	6721.4	6390.0	5770.1	3756.6	3558.8	1744.5
8	6753.2	6395.1	5790.8	3759.3	3556.9	1750.4
9	6731.7	6396.2	5789.7	3758.4	3558.1	1749.0
10	6734.4	6424.8	5803.0	3766.6	3565.2	1752.6
11	6752.8	6410.7	5802.2	3773.2	3569.9	1752.6
12	6759.5	6388.8	5809.7	3773.0	3577.0	1754.0(24)
13	6739.5	6390.8	5812.1	3773.0	3573.8	----
14	6748.0	6406.5	5830.1	3780.2	3569.1	----
15	6761.8	6412.3	5842.9	3793.3	3556.8	----
16	6781.3	6428.2	5842.8	3798.4	3557.4	1741.1(14)
17	6779.8	6427.7	5839.2	3795.6	3560.1	1745.2(26)
18	6762.0	6405.8	5814.8	3757.7	3554.3	1733.0
19	6710.4	6362.3	5788.0	3723.0	3542.9	1731.3(12)
20	6692.3	6345.0	5777.3	3716.5	3424.6	1721.2(26)
21	6717.3	6340.5	5770.0	3709.8	3526.7	1726.0(24)
22	6733.0	6392.6	5791.1	3741.9	3543.0	1737.2
23	6655.5	6333.3	5765.3(19)	3705.0	3517.9	1726.1
24	6642.2	6293.9	----	3722.1	3533.8	1727.3
25	6693.8	6335.8	5784.8(9)	3730.1	3537.3	1726.6
26	6739.9	6382.4	5788.7	3749.3	3546.3	1736.3(34)
27	6744.4	6395.2	5795.9	3765.7	3557.8	1735.3
28	6774.3	6384.4	5816.0	3768.8	3563.5	1737.6
29	6739.5	6361.5	5797.5	3756.0	----	1739.5
30	6747.3	6392.6	5820.7	3769.2	----	1740.8
31	6787.5	6413.3	5833.2	----	----	1740.4
Mean	6722.5	6374.6	5599.8	3747.0	3551.2	1739.9

For less than 24-hour coverage, parentheses enclose the number of hours for which data are available.
For Climax and Huancayo, parenthese enclose the number of section hours whenever the sum of both sections falls below 40 hours.

COSMIC RAY INDICES
(Neutron Monitor)

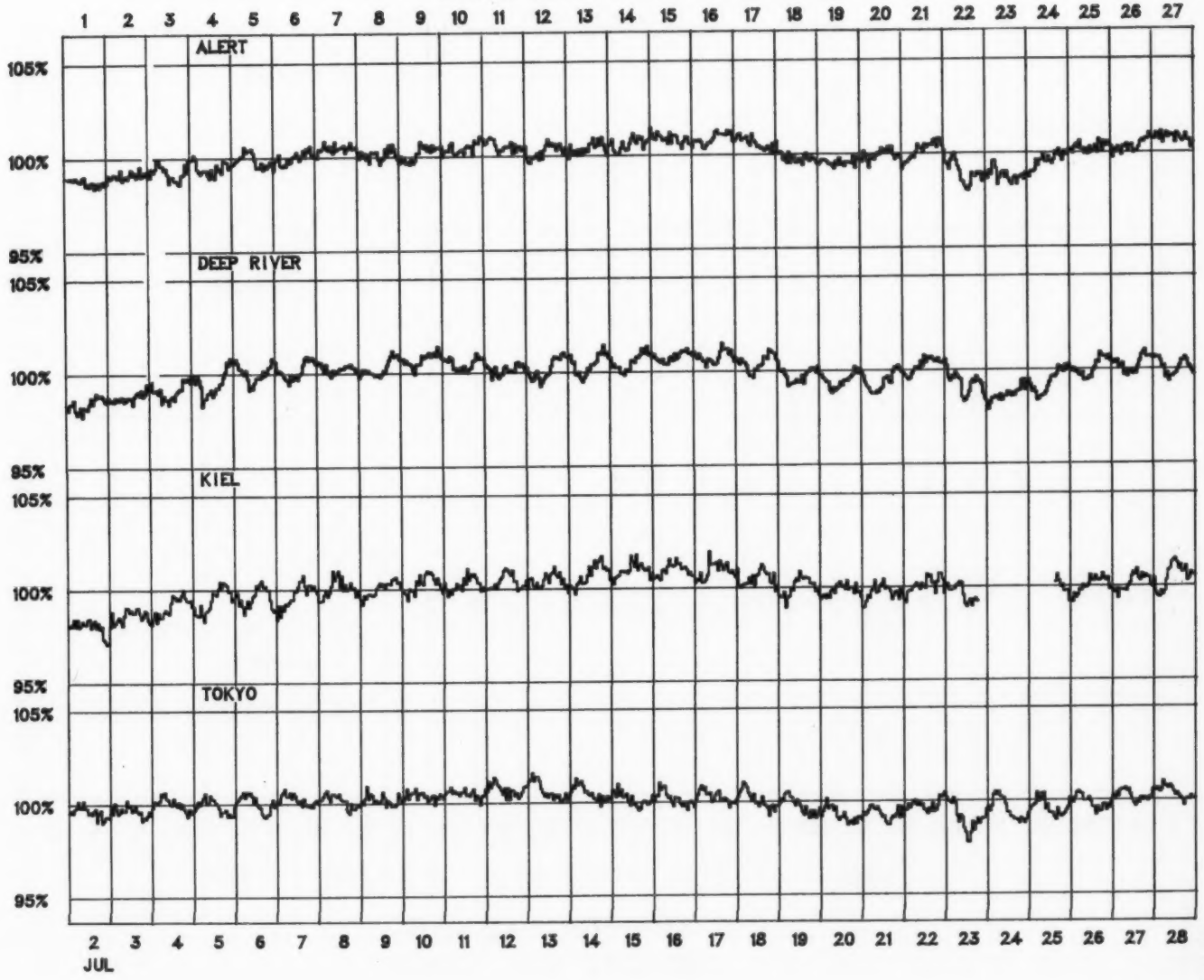
Bartels Rotation 2048 (June 1983–July 1983)



COSMIC RAY INDICES

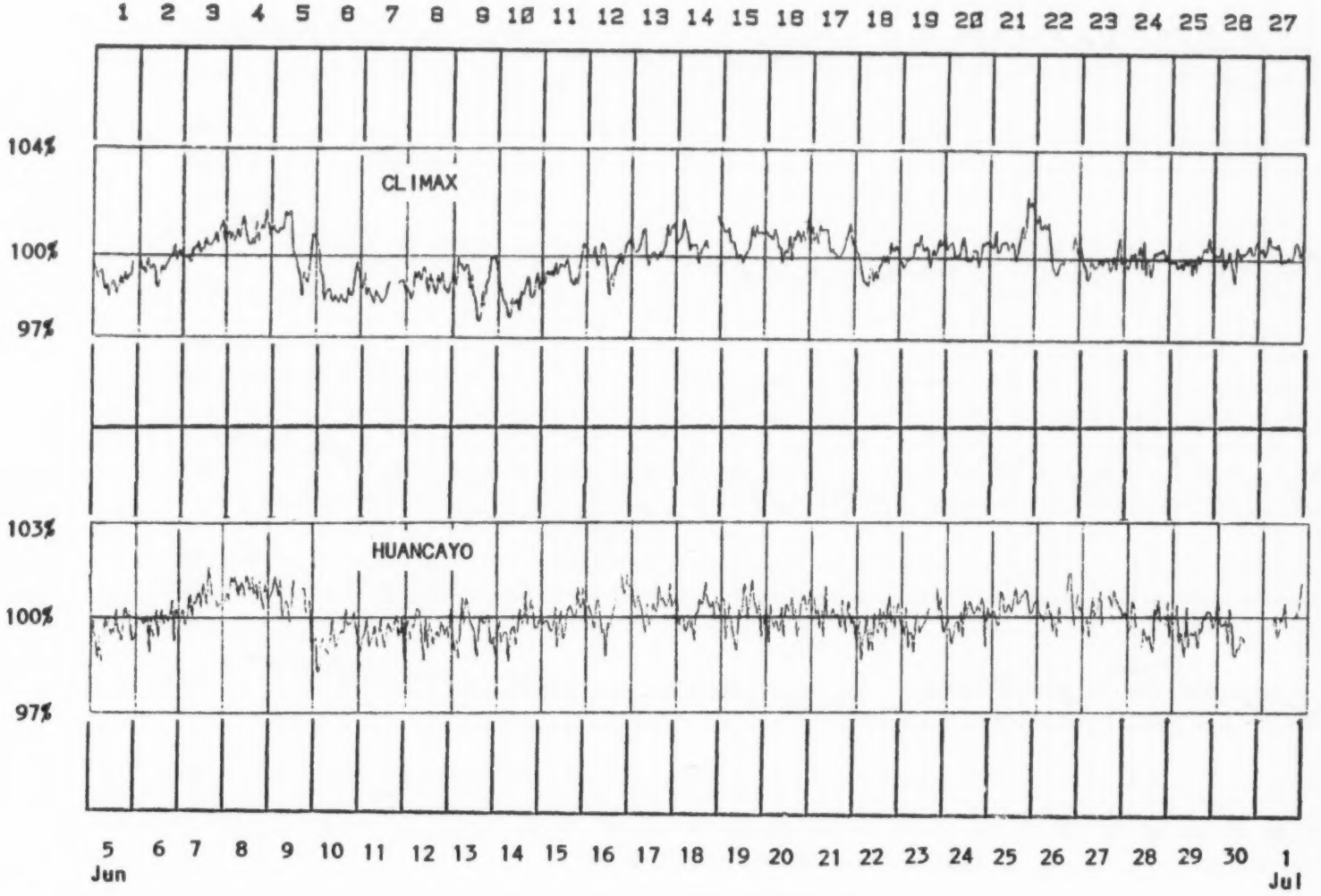
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2049 (July 1983)



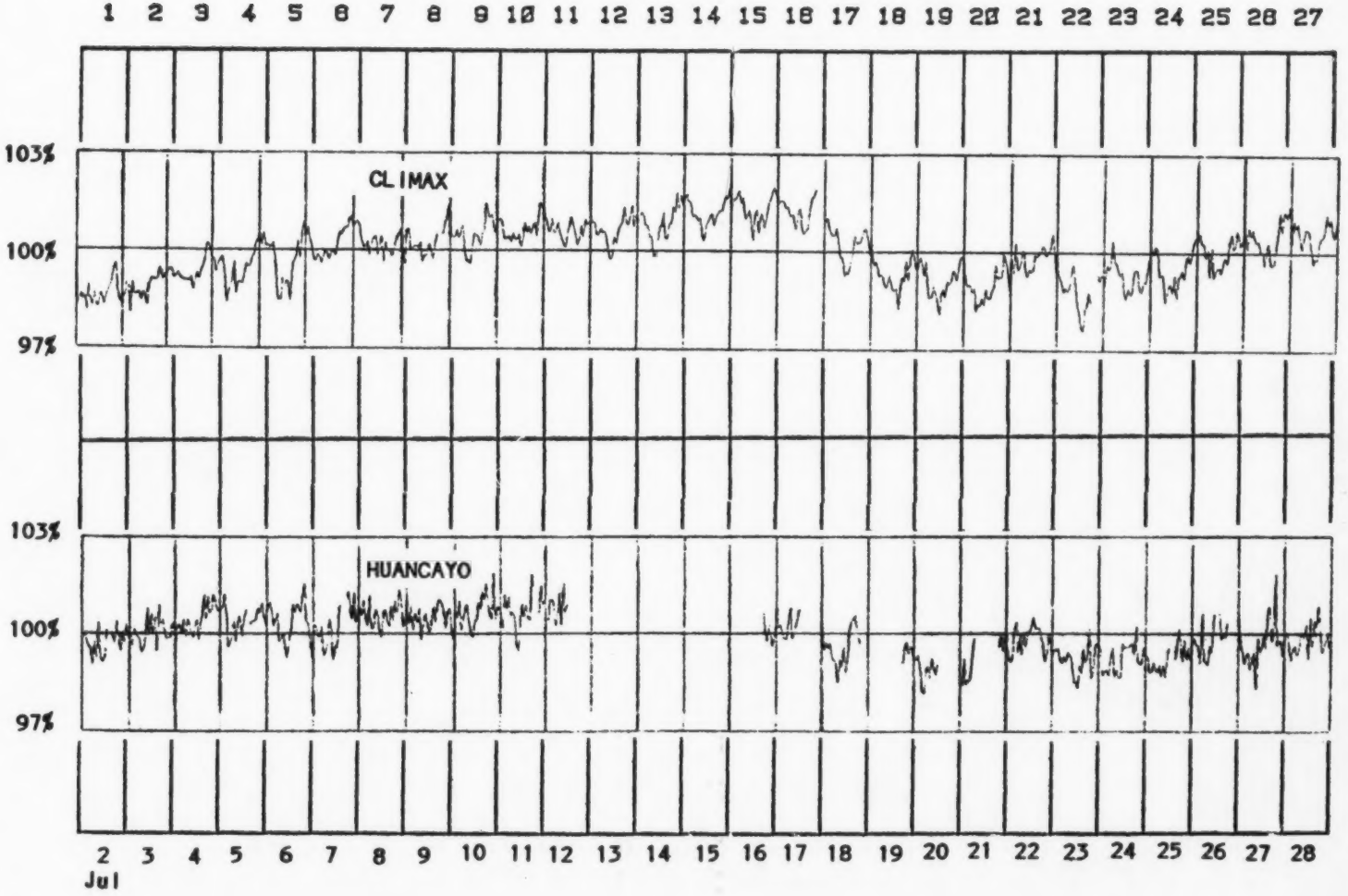
COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2048 (June 1983–July 1983)



COSMIC RAY INDICES
(Neutron Monitor)

Bartels Rotation 2049 (July 1983)



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Late
Jul 83

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